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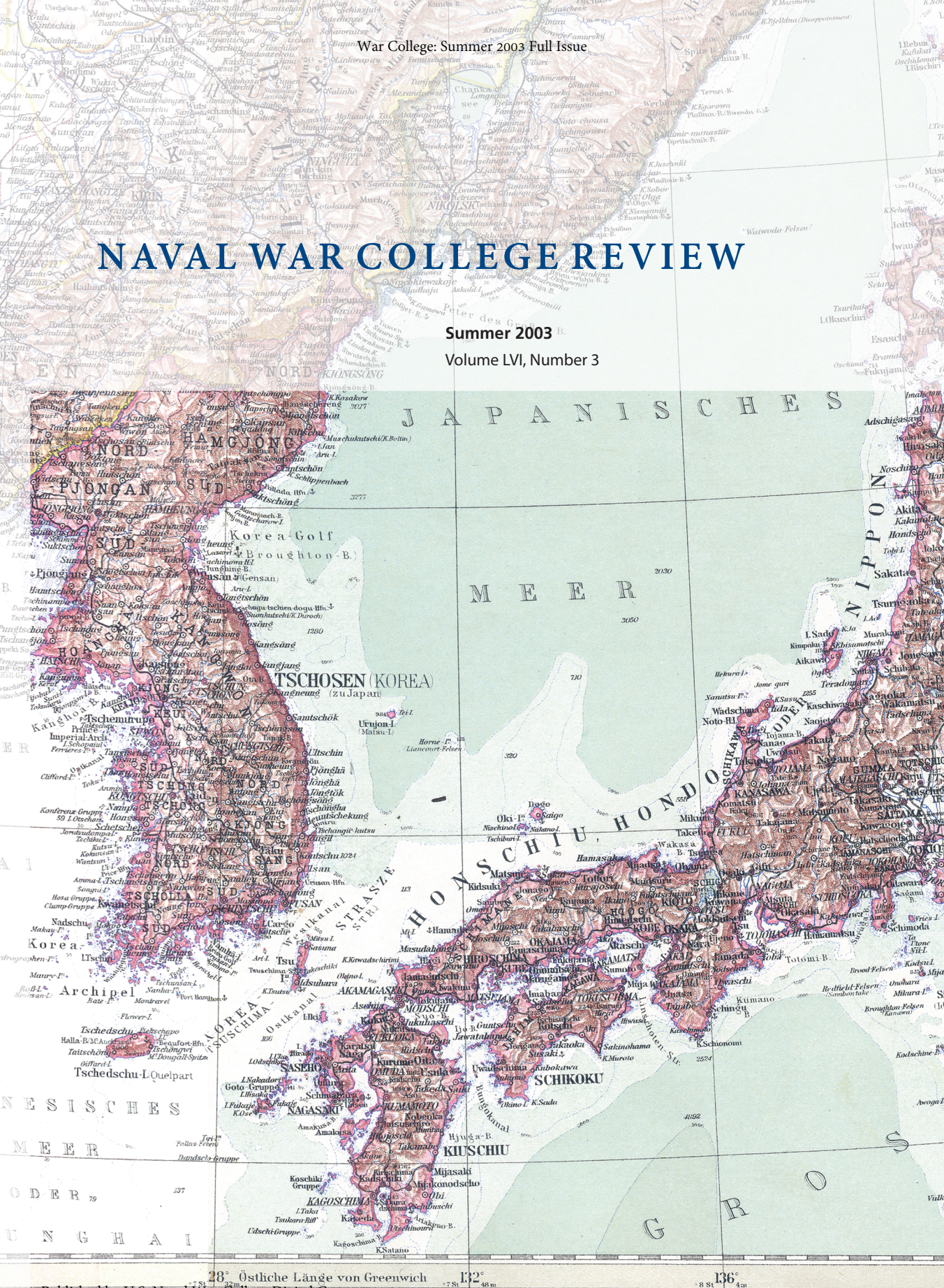
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# NAVAL WAR COLLEGE REVIEW

Summer 2003

Volume LVI, Number 3





### Cover

A detail from “The Far East” (*der ferne Osten*), map 76 of the *Stielers Hand-Atlas*, 10th (centennial) edition, a collection of 254 copperplate maps produced under the editorial supervision of Prof. Dr. M. Haack and published by the firm of Justus Perthes, of Gotha, Germany, in 1926–27. It is a reminder of how striking, as well as informative, maps drawn and engraved by hand could be. It is an equally striking reminder of the regional geostrategic realities underlying, and implications of, the recent events examined in our lead article, “The United States, North Korea, and the End of the Agreed Framework,” by a leading East Asia scholar, Jonathan D. Pollack.

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# NAVAL WAR COLLEGE REVIEW

**Summer 2003**

Volume LVI, Number 3



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American civilian and military leaders must dismiss the fatally flawed theory that time is on China's side in the struggle over the fate of Taiwan. The real danger of a PRC attack is in this decade, when Taiwan is most vulnerable, not in the next. Closer military ties with Taiwan, more cautious dealings with China, a strengthened U.S. naval and air presence in the western Pacific, and complementary nonmilitary measures are needed.

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## Transforming the Navy

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Rear Admiral Rempt is a 1966 graduate of the U.S. Naval Academy. Initial assignments included deployments to Vietnam aboard USS Coontz (DLG 9) and USS Somers (DDG 34). He later commanded USS Antelope (PG 86), USS Callaghan (DDG 994), and USS Bunker Hill (CG 52). Among his shore assignments were the Naval Sea Systems Command as the initial project officer for the Mark 41 Vertical Launch System; Chief of Naval Operations (CNO) staff as the Aegis Weapon System program coordinator; director of the Prospective Commanding Officer/Executive Officer Department, Surface Warfare Officers Schools Command; and Director, Anti-Air Warfare Requirements Division (OP-75) on the CNO's staff. Rear Admiral Rempt also served in the Ballistic Missile Defense Organization, where he initiated development of Naval Theater Ballistic Missile Defense, continuing those efforts as Director, Theater Air Defense on the CNO's staff. More recently, he was Program Executive Officer, Theater Air Defense, the first Deputy Assistant Secretary of the Navy for Theater Combat Systems, the first Assistant Chief of Naval Operations for Missile Defense, and Director, Surface Warfare (N76) on the CNO's staff. Rear Admiral Rempt assumed duties as the forty-eighth President of the Naval War College on 22 August 2001.

He holds master's degrees in systems analysis from Stanford University and in national security and strategic studies from the Naval War College.

## PRESIDENT'S FORUM

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*We are not training students to deal with issues and challenges that we expect them to encounter. We are educating them to react positively to the unknown, to develop and analyze competing options, and to implement solutions that have the greatest probability of success.*

ON A RECENT FLIGHT FROM THE WEST COAST I was seated next to an articulate young business executive, who asked me, “Why does the Navy have a war college?” As a businessman, he was wondering about the “return on investment” that the American taxpayers get for the portion of the Navy’s budget that we consume each year. It was a fair question, and I think the answer I gave to this impromptu question is worth sharing with you.

### *What Do We Do?*

Contrary to some opinions, we don’t *train* our students—we *educate* them. Training is conducted to provide such skills as flying an airplane or driving ships. Generally these skills can be used to deal with the challenges that we expect to encounter. The education we provide is more along the lines of “mind shaping” that attempts to equip students with the ability to react effectively to unforeseen circumstances. The “bumper sticker” says that we *train for the known and educate for the unknown*. This is especially important as today’s crystal ball for national security studies is getting cloudier instead of clearer. It is harder and harder to predict what will be required of us in the years ahead.

### *How Do We Do It?*

The Naval War College curriculum is based upon three core courses of study and a multidisciplinary Electives Program. Courses in each of these four areas are designed to provide depth and perspective to the study of conflict, its causes, and its resolution.

- Strategy and Policy is designed to teach students to think strategically. The theory and application of warfare from the time of Athenian seapower



through the present are studied, and a set of strategic themes—the most central being the relationship between a nation’s policy ends and how its military means are used in pursuit of those ends—is considered.

- National Security Decision Making courses are uniquely designed for the military and civilian Defense Department executive. They consider the economic, political, and military factors common to decision making in the national security arena. Case studies exploring major contemporary nuclear, conventional, and contingency force-planning issues challenge students to develop personal frameworks for integrating the many, often competing, demands involved in planning, choosing, and obtaining future military forces.
- Joint Military Operations focuses on the planning and conduct of joint and combined military actions in support of national and coalition strategic goals. Stress is placed on effective planning processes and concepts used in the employment of military forces across the full spectrum of conflict. The operational level of war is examined through the use of real-world case studies and war gaming.
- Electives provide students with the means to explore subjects of professional significance not included in the core curriculum or to investigate in greater detail specific elements of that curriculum. Elective subjects range from military theory to area studies, from international relations to professional ethics, and from international law to media relations.

### *What Is the Payoff?*

It is often the case that the real worth of an education is not recognized until long after the diploma on the wall has faded and yellowed. Major General William G. Pagonis, a highly decorated Army logistician, writing thirteen years after his graduation, stated: “I was admitted to the Naval War College[,] . . . and put simply, this was one of the great experiences of my life. The instructors were fantastic, and the subject matter uniformly absorbing. We were immersed, for example, in military history. We studied the Peloponnesian Wars, the campaigns of Napoleon, the strategies of Bismarck, the writings of Clausewitz; we steeped ourselves in the tactics of Alexander the Great and Rommel.”

This, then, is the true value of a Naval War College education: to provide historical perspective and teach the principles of war in the context of past, present, and future conflicts; to expose minds to new ideas, expand horizons beyond the familiar; to sensitize students to cultural differences; to hone analysis and decision skills; to establish a network of fellow scholars that can be useful for decades

to come; to challenge the conventional wisdom; to reinforce values and encourage ethical behavior; and to prepare tomorrow's leaders to deal with an uncertain future. We are not training students to deal with issues and challenges that we expect them to encounter. We are educating them to react positively to the unknown, to develop and analyze competing options, and to implement solutions that have the greatest probability of success.

This "future focus" has always been a hallmark of the Naval War College experience. Under Rear Admiral Alfred Thayer Mahan, the class of 1897 considered "the naval problems arising in the Caribbean and Gulf of Mexico out of French interest in an isthmian canal." In the 1930s, students studied the potential for war in the Pacific and developed the plans that were to serve as the blueprint for the Allies' ultimate victory in that theater. During the Cold War, the College was an active participant in analyzing, gaming, and teaching security concepts ranging from mutually assured destruction through guerrilla warfare. Today, we are helping to shape the future through our work with Sea Power 21 and the nuances of the Terror War. Our focus is ahead, but our vision includes the hard-learned lessons of the past.

While the greatest payback to the nation on its investment in Naval War College graduates will likely come sometime in the future, the College is having a positive impact in the near term as well. In fact, many leaders of today's military completed their educations here, five, ten, or even fifteen years ago. Recent graduates and former faculty members are commanding several Army combat brigades on the ground in Iraq. Others command ships, Air Force squadrons, Army divisions, entire fleets, and large joint forces. Alumni serve as ambassadors in the capitals of major allies, as congressional staffers on Capitol Hill, and even in orbit around the earth.

Even more visible are the numerous faculty members and alumni who appear regularly in print and in the electronic media as columnists and advisers, using their expertise to interpret military actions for the larger civilian audience.

### *How Well Are We Doing?*

It is always difficult to gauge the success of an educational program, but some of our alumni have expressed their evaluations of how successful the program has been over a number of years. Admiral Gregory Johnson, commander of U.S. naval forces in Europe, recently wrote, "I would also note the year at Newport is really about an 'experience' and not just the education. It is a fantastic 'experience' and every one of our most competitive officers must be exposed; it will make our Navy much better. It's about intellectual stimulation and curiosity; camaraderie with fellow officers from other communities, services, and nations as well as the faculty; and a general opening and maturing of the professional

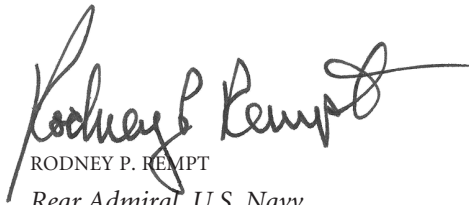


aperture that will enable each one of our officers to be that much more effective when they return to the fleet.”

General Charles Wilhelm, U.S. Marine Corps (Ret.), has described the value of the College in his own distinguished career:

I’ve finally figured out exactly where the War College fits in the long and challenging journey we call a military career. Whether we sail a ship, drive a tank, fly a plane or help those that do[,] . . . for the first half of a 30-year career the *physical* part of our vocation dominates the *intellectual* part. During those first 15 years, we spend the majority of our time actually sailing the ship, driving the tank, flying the plane or directly supporting those who do. In a like manner, during the first half of our careers we are heavily invested in enforcing regulations and learning and applying doctrine, tactics, techniques and procedures. During the second 15 years the process reverses itself, and the *intellectual* pursuits largely dominate the *physical*. Rather than sail the ship, drive the tank or fly the plane we design, test, or buy them. And we become less concerned with enforcing regulations and applying doctrine and more concerned with their conception and articulation. I have come to think of the Naval War College as the mid-career bridge that allowed me to pass over the gully separating the physical and intellectual segments of my career.

We are committed to ensuring that the College will continue to serve as a relevant and career-critical step in the professional development of our officers. The evidence of our success will be in the actions of graduates in positions of great responsibility as they correctly apply the principles of war to preserve the peace.

A handwritten signature in black ink, reading "Rodney P. Rempt". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

RODNEY P. REMPT

*Rear Admiral, U.S. Navy  
President, Naval War College*



*Dr. Pollack is director of the Strategic Research Department in the Center for Naval Warfare Studies of the Naval War College, where he also directs the College's Asia-Pacific Studies Group. After earning his doctorate in political science from the University of Michigan and completing a postdoctoral fellowship at Harvard University, he worked for the RAND Corporation (successively as member of the research staff, head of the Political Science Department, faculty affiliate of the RAND Graduate School, director for international policy, and senior adviser for international policy). He has taught at the University of California at Los Angeles and at Brandeis University. His recent publications include The United States and Asia: Towards A New U.S. Strategy and Force Posture (2001, contributor), Preparing for Korean Unification: Scenarios and Implications (1999, senior author), The Future of Chinese and Japanese Naval Power: Implications for Northeast Asian Maritime Security (1998, senior author), In China's Shadow: Regional Perspectives on Chinese Foreign Policy and Military Development (1998, co-editor), Assembled in China: Sino-U.S. Collaboration and the Chinese Aviation Industry (1998, senior author), and The Future of U.S. Nuclear Weapons Policy (1997, contributor), as well as numerous journal articles and book chapters on U.S. Asia-Pacific strategy, Chinese political and strategic developments, and East Asian international relations.*

*Naval War College Review, Summer 2003, Vol. LVI, No. 3*

## THE UNITED STATES, NORTH KOREA, AND THE END OF THE AGREED FRAMEWORK

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*Jonathan D. Pollack*

Between October and December 2002, with American policy makers preoccupied by the growing possibilities of war with Iraq, a more immediate and unanticipated confrontation loomed between the United States and North Korea. With stunning rapidity, Washington and Pyongyang unraveled close to a decade of painfully crafted diplomatic arrangements designed to prevent full-scale nuclear weapons development on the Korean Peninsula. By year's end, both countries had walked away from their respective commitments under the U.S.-DPRK Agreed Framework of October 1994, the major bilateral accord negotiated between Washington and Pyongyang during the 1990s. North Korea finalized its break with the earlier agreement by announcing its immediate withdrawal from the Nuclear Nonproliferation Treaty (NPT) on 10 January 2003, becoming the first nation ever to withdraw from the treaty, simultaneously severing all nuclear inspection arrangements with the International Atomic Energy Agency (IAEA).

The abrupt collapse of the Agreed Framework, in the absence of alternative arrangements to constrain North Korea's nuclear weapons potential, triggered major international concern over the longer-term consequences for the global nonproliferation regime. The renewed confrontation between the United States and North Korea also exacerbated the most serious tensions in the fifty-year history of the U.S.-Republic of Korea (ROK) alliance, quite possibly laying the groundwork for a major regional crisis unparalleled since the Korean War. Though a worst-case scenario is not inevitable, a peaceful outcome that prevents an avowed DPRK nuclear weapons capability seems far from assured, and an agreement acceptable to both states that would supplant the discarded 1994 agreement remains out of reach.



The Agreed Framework froze Pyongyang's activities at its Yongbyon nuclear complex, including the operation of a plutonium reprocessing facility. Left unconstrained, the reprocessing facility would have enabled North Korea to separate substantial quantities of weapons-grade plutonium from the spent fuel removed from its operational graphite-moderated reactor. Had its ongoing activities not been halted, North Korea would have ultimately developed the means to fabricate significant numbers of nuclear weapons, as well as enabled Pyongyang to market weapons-grade plutonium to other parties. In return

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*The Agreed Framework "as we know it is dead."* for mothballing its operational reactor and related facilities, the United States agreed to provide

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heavy fuel oil to the North and to assume leadership of a multinational project to build two "proliferation resistant" light-water reactors (LWRs). These reactors were intended to replace the North's extant power reactor and forestall the completion of two larger reactors that would have enabled production of far greater quantities of weapons-grade plutonium.

As North Korea's nuclear activities increased during the late 1980s and early 1990s, the U.S. intelligence community devoted growing attention to Pyongyang's nuclear weapons potential. The reporting on the North's nuclear weapons program varied little during the 1990s, but estimates released since 2001 have been highly inconsistent. In 1993, the Central Intelligence Agency first concluded that in the late 1980s "North Korea . . . ha[d] produced enough plutonium for at least one, and possibly two, nuclear weapons." This judgment was reaffirmed in all unclassified intelligence assessments throughout the latter half of the 1990s, up to intelligence reporting in mid-2001.<sup>1</sup> Though the CIA assessment was widely interpreted as evidence that North Korea had one or two nuclear weapons in its possession, neither the intelligence community nor any senior U.S. official offered a definitive statement to this effect during the remainder of the 1990s. However, the intelligence community assessment shifted noticeably in December 2001, when an unclassified version of a National Intelligence Estimate (NIE) asserted that "[t]he Intelligence Community judged *in the mid-1990s* that North Korea had produced one, possibly two, nuclear weapons."<sup>2</sup> Subsequent intelligence reporting further altered earlier estimates. In an unclassified assessment provided to the Congress on 19 November 2002, the CIA stated: "The U.S. . . . has assessed *since the early 1990s* that the North has one or possibly two [nuclear] weapons using plutonium it produced prior to 1992."<sup>3</sup>

The initial Bush administration intelligence estimates thus offered more definitive claims about North Korean nuclear capabilities. They also moved back the date that intelligence analysts believed North Korea had fabricated one or two weapons, or the supposed date when the CIA made this determination.

However, a CIA estimate provided to the Congress in January 2003 reverted to the more equivocal language of the 1990s, asserting that “North Korea probably has produced enough plutonium for at least one, and possibly two, nuclear weapons.”<sup>4</sup> The January 2003 document did not reiterate the assertions of late 2001 and late 2002 that Pyongyang already possessed one or two weapons, let alone claim that the intelligence community arrived at this judgment at a much earlier date. Intelligence inconsistencies and uncertainties concerning the North’s nuclear program were not surprising. However, decade-old estimates were now being sharply recast, with direct implications for future U.S. policy toward Pyongyang.

In addition, the U.S. intelligence community concluded in the summer of 2002 that North Korea had undertaken a covert uranium-enrichment program, most likely initiated in the late 1990s. According to the CIA, activities associated with this program surfaced definitively during 2001, including extensive purchases of materials for construction of a gas-centrifuge enrichment facility.<sup>5</sup> Though the CIA contended in November 2002 that the facility was at least three years from becoming operational, intelligence analysts believed that a completed facility could ultimately produce sufficient fissile material for “two or more nuclear weapons per year.”<sup>6</sup> In the CIA’s judgment, an enrichment facility would provide the North an alternative source of fissile material to substitute for the plutonium reprocessing activities frozen under the Agreed Framework. In addition, the November 2002 intelligence estimate did not preclude the possibility of Pyongyang’s reactivating its plutonium separation program.

U.S. officials asserted that North Korea’s enrichment activities violated the spirit and the letter of the 1994 accords, through which both states pledged to keep the Korean Peninsula free of nuclear weapons and to redefine political and economic relations between the two countries. As stated by President Bush in his 6 March 2003 press conference, “My predecessor, in a good-faith effort, entered into a framework agreement [with North Korea]. The United States honored its side of the agreement. North Korea didn’t. While we felt the agreement was in force, North Korea was enriching uranium.”<sup>7</sup> Under the Agreed Framework, Pyongyang had pledged to “consistently take steps” to implement the January 1992 Joint Declaration on the Denuclearization of the Korean Peninsula, which obligated the South and North not to “test, manufacture, produce, receive, possess, store, deploy or use nuclear weapons,” as well as committing both countries “not [to] possess nuclear reprocessing and uranium enrichment facilities.” During 2001, senior administration officials had acknowledged that North Korea had upheld its obligations under the Agreed Framework.<sup>8</sup> But the United States now confronted the possibility of a covert fissile material program not covered

by the 1994 agreement, thereby enabling Pyongyang to circumvent its declared nonproliferation commitments.

After reviewing the intelligence data and weighing American policy options, the Bush administration in early October 2002 dispatched a presidential emissary, Assistant Secretary of State for East Asian and Pacific Affairs James Kelly, to Pyongyang. Assistant Secretary Kelly informed senior North Korean officials of the summer 2002 intelligence findings, without furnishing specific or detailed evidence to substantiate them. He made clear that these developments had introduced a “precondition” to any possible improvement in U.S.–North Korean relations, and that North Korea would need to verifiably dismantle its covert nuclear activities before the United States would consider the resumption of high-level exchanges with the DPRK.<sup>9</sup> According to State Department officials, North Korean officials first denied the U.S. allegations. However, in a final meeting with Assistant Secretary of State Kelly, a senior North Korean official, First Vice Minister of Foreign Affairs Kang Sok Ju, reportedly admitted the existence of a clandestine nuclear weapons program, while asserting a sovereign right to develop nuclear weapons and “more powerful things as well.” Kang also allegedly informed his American interlocutors of the North’s intention to terminate the Agreed Framework.<sup>10</sup>

A fuller rendering of policy developments prior to the Kelly visit and subsequent events suggests a more complex and more troubling story. North Korean scientists had engaged in activities that contravened or skirted declared obligations under the Agreed Framework, but neither Washington nor Pyongyang dis-

tinguished itself in reacting to the intelligence claims. Leaders in both capitals were increasingly dissatisfied with the 1994 accord,

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*The Bush administration had opted for a waiting game with Pyongyang.*

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though for very different reasons. Pyongyang complained repeatedly that the United States was lagging far behind the scheduled completion of the LWR project, and Washington faulted the North for delays in clarifying its prior nuclear weapons activities. Neither government saw compelling reasons to sustain the 1994 accord. The intelligence findings thus enabled both governments to deem their prior obligations null and void. With both countries putting forward maximal, nonnegotiable policy positions, the subsequent collapse of the Agreed Framework was virtually foreordained, though it unfolded with far greater rapidity than U.S. officials probably anticipated.

This article will focus primarily on the factors that led to the breakdown of the Agreed Framework. This requires analysis at four principal levels: U.S.–North Korean relations under the Clinton administration; early Bush administration policies and how these policies may have affected North Korean political

and security calculations; an assessment of the nuclear enrichment activities undertaken by North Korea; and how Washington and Pyongyang responded to the U.S. disclosure of North Korea's renewed nuclear activities, leading to the policy impasse and ultimate collapse of the Agreed Framework in late 2002 and early 2003. These larger issues first necessitate some observations on the North Korean system, its current circumstances and political-military orientation, and the North's negotiating strategies.

## UNDERSTANDING THE NORTH KOREAN SYSTEM

The Democratic People's Republic of Korea (DPRK) is the world's most self-referential political system and America's longest-running political-military adversary. The United States has continuously deployed major military forces on the peninsula for a half-century to prevent a second Korean war and help defend South Korea in the event of deterrence failure. The North continues to adhere to a national mythology reinforced by a dynastic succession from father (Kim Il Sung) to son (Kim Jong Il). It is the world's sole surviving Stalinist state, with an undiminished cult of personality surrounding Kim Jong Il. Indeed, nearly a decade after Kim Il Sung's death, the position of president remains unfilled, enabling the elder Kim to be designated president in perpetuity.

North Korea is also the world's most militarized regime. Its massive conventional forces, rocket launchers, and artillery deployed immediately north of the thirty-eighth parallel pose an inherent risk to thirty-seven thousand U.S. military personnel stationed in the ROK, as well as to the well-being and security of South Korea as a whole. The North maintains large stockpiles of chemical and biological agents; the primary research and production facilities are contiguous to the Chinese border, thereby rendering them far more problematic to target during wartime.<sup>11</sup> Hundreds of Scud B and C missiles (some estimates range as high as six hundred) are deployed at various locations in the DPRK, from which they are able to strike targets throughout the peninsula; hundreds of these missiles have also been exported to the Middle East, the Persian Gulf, and South Asia. Lesser numbers of Nodong 1 and 2 missiles (generally estimated at about thirty, though other estimates range lower as well as higher) are reportedly deployed at missile bases in the North; they have a range up to 1,300 kilometers and are therefore able to reach targets throughout Japan.<sup>12</sup> Given the North's capabilities and the South's geography and highly concentrated population centers, any significant armed conflict would be extremely violent and destructive; this possibility has long sobered senior U.S. and ROK officials.

North Korea is also a society experiencing acute internal privation. Despite some limited evidence of experimentation with market-based reforms, its economy remains almost totally detached from the dynamism of the ROK and



China. The North's dysfunctional economic policies led to a horrific famine and humanitarian crisis during the mid-1990s, likely resulting in the deaths of as many as 2.5 million people, or more than 10 percent of the country's total population.<sup>13</sup> Having lost its Cold War subsidies provided by the former Soviet Union, and to a lesser extent by China, North Korea is sustained principally by international aid programs (especially for food and energy); tourism and joint venture activity provided by the South; and revenue from sales of ballistic missiles and from illicit economic activities. Its ultimate goal appears to be regime survival, even as it continues to present itself as the sole legitimate embodiment of Korean nationalism.

Despite (or because of) its grim isolation and horrendous internal circumstances, North Korea has proven extraordinarily resourceful in eliciting international assistance and in holding its own in negotiations with the outside world.<sup>14</sup> It consistently punches above its weight and derives much of its political legitimacy from the international attention it has garnered from various major powers, which it then conveys to its own populace and within the North Korean elite. It has parlayed its vulnerabilities, nuclear weapons and ballistic missile programs, and the ever-present threat of a second Korean war into a finely honed negotiating strategy. In so doing, it has withstood international pressure and prevented the outside world from imposing political and diplomatic outcomes on the North that Pyongyang deems unacceptable.<sup>15</sup> Through insistence on norms that foreign interlocutors seldom grasp but to which they are frequently compelled to accommodate, North Korea has remained within its protective political cocoon, repeatedly frustrating international efforts to induce major change in its internal and external behavior. These considerations shaped what the Clinton administration deemed possible in its diplomacy with the North, as well as the subsequent policies of the Bush administration.

#### THE CLINTON ADMINISTRATION AND THE AGREED FRAMEWORK

From its initial promulgation in October 1994 until its ultimate demise, the Agreed Framework was widely judged an incomplete and flawed policy document but one that did achieve measurable results.<sup>16</sup> It reflected the inherent peculiarities in U.S.-DPRK relations, including Pyongyang's expectation that the United States serve as its near-exclusive nuclear interlocutor and tacit guarantor of the North's sovereignty and security. The events of late 2002 and early 2003 suggest clear parallels with the U.S.-North Korean negotiations of the early 1990s, though the outcome of the latter confrontation has thus far been decidedly different.<sup>17</sup> The predominant concern of the Clinton administration was to forestall North Korean plutonium generation and reprocessing activities unconstrained by international inspections and in defiance of international norms.

These worries shaped the administration's primary objectives in its bilateral negotiations and identified the relevant pressure points that North Korea sought to exploit. The missing pieces in the Agreed Framework (in particular, North Korea's undeclared nuclear facilities and the prior history of the DPRK's reprocessing activities) and the inability or unwillingness of both governments to fulfill their respective commitments under the agreement ultimately proved the source of its undoing. However, the Bush administration has yet to propose an alternative strategy to rebuild what the Agreed Framework successfully achieved.

The history of ensuring North Korean compliance with its nonproliferation commitments is a long and checkered one, antedating high-level U.S. negotiations with the North by well over a half-decade.<sup>18</sup> Virtually all agreements have involved protracted negotiations, with many understandings repeatedly subject to reversal or threatened breakdown. Depending on how North Korean intentions are viewed, this record illustrates Pyongyang's intense fears and outright paranoia toward the outside world, or it highlights North Korea's exceptional

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skill at evading full disclosure and wringing concessions from very powerful adversaries. (A satisfactory answer entails elements of

both factors.) Responding to sustained pressure from Soviet officials who were otherwise unprepared to furnish larger nuclear-power reactors to the North, the DPRK signed the NPT in late 1985. However, it was not until the spring of 1992, nearly five years longer than stipulated by IAEA requirements and following the unilateral withdrawal of all U.S. tactical nuclear weapons from the peninsula in September 1991, that North Korea ratified a safeguards agreement, including the declaration of seven principal nuclear sites. Following a series of inspections during the latter half of 1992, the IAEA uncovered significant discrepancies in the data provided by North Korea, leading the agency in February 1993 to demand special inspections at two plutonium storage facilities at the Yongbyon nuclear complex, approximately seventy-five kilometers north of Pyongyang. The following month, North Korea declared its intention to withdraw from the NPT, a decision that was suspended once negotiations with the United States began in June 1993.<sup>19</sup>

Although North Korea did grant IAEA inspectors access to some of its declared nuclear sites, it continued to deny requests to visit the plutonium reprocessing facility. North Korean technicians also began to remove spent fuel rods from the five-megawatt research reactor at Yongbyon without inspectors being present.<sup>20</sup> Fearful of the consequences for proliferation should Pyongyang ultimately reprocess the thousands of spent fuel rods stored at Yongbyon, the

Clinton administration in the spring of 1994 reportedly undertook detailed planning for an air attack on the North's principal nuclear complex. An attack would have been designed to entomb the plutonium in the reactor and to destroy the reprocessing facility, even though (as senior U.S. officials assumed) the attack would trigger full-scale war on the peninsula.<sup>21</sup> Opinions remain divided on whether the Clinton administration was fully prepared to undertake these military operations, in view of the risks, uncertainties, and potential consequences of a major attack. But President Carter's June 1994 visit to Pyongyang abruptly altered these circumstances. In discussions with the former American president, Kim Il Sung offered to freeze the North's nuclear activities in exchange for renewed talks with the United States and a negotiated understanding with Washington, forestalling the immediate possibility of a major regional crisis.<sup>22</sup>

The Agreed Framework, signed on 21 October 1994, entailed an overlapping set of joint and national-level obligations, many of which remained unfulfilled at the time of the unraveling of the accords in late 2002.<sup>23</sup> The United States and DPRK pledged to normalize economic and political relations, including the ultimate exchange of ambassadors. North Korea was expected to fulfill its commitments under the South-North denuclearization agreement of 1992; for its part, the United States was obligated to "provide formal assurances" not to threaten or use nuclear weapons against the DPRK. The United States agreed to establish and lead the Korean Peninsula Energy Development Organization (KEDO), a multinational consortium that would oversee the financing and construction of a pair of thousand-megawatt light-water reactors to replace the North's existing or planned graphite-moderated reactors. Building directly on the Agreed Framework, KEDO and the DPRK signed a contract for two LWRs in December 1995.

The principal U.S. concern was focused on a fifty-megawatt reactor then under construction at Yongbyon and a two-hundred-megawatt reactor then under construction at Taechon. Had these projects become fully operational, they were expected to yield approximately 275 kilograms of weapons-grade plutonium each year.<sup>24</sup> Depending on the assumed requirements for fabricating a plutonium weapon, this amount of fissile material would have provided North Korea the annual potential to produce more than forty nuclear weapons.<sup>25</sup> The original target date for completion of the LWR project was 2003. Pending its completion, the United States was obligated each year to provide North Korea with five hundred thousand metric tons of heavy fuel oil to compensate for the energy production the North claimed it would forgo by shutting down its indigenous five-megawatt reactor and ceasing construction of the larger reactors.<sup>26</sup>

From the U.S. perspective, the essence of the Agreed Framework concerned the constraints imposed on North Korea's nuclear activities, in return for U.S. leadership of the LWR project and the provision of heavy fuel oil. In a separate

“letter of assurance” provided to Kim Jong Il the day prior to the signing of the Agreed Framework, President Clinton pledged to

use the full powers of my office to facilitate . . . the light-water nuclear power project . . . and the funding and implementation of interim energy alternatives . . . pending completion of the first reactor unit. . . . [I]n the event that this reactor project [or the interim energy alternatives are] not completed for reasons beyond the control of the DPRK, I will use the full powers of my office to provide, to the extent necessary, such a project [and interim energy alternatives] from the U.S., subject to the approval of the U.S. Congress. . . . I will follow this course of action so long as the DPRK continues to uphold the policies described in the Agreed Framework.<sup>27</sup>

In return for these commitments, Pyongyang was obligated to freeze operation of its existing graphite-moderated reactor and of the reprocessing facility, and to cease construction of the larger reactors. The DPRK was also required to remain a party to the NPT.

However, specific milestones under the Agreed Framework were repeatedly subject to divergent interpretation by the two sides; in particular, there were repeated complaints by Pyongyang about slippage in various delivery schedules.<sup>28</sup> First, the reactor construction projects at Yongbyon and Taechon were to be dismantled prior to completion of the second LWR, but no date was specified for when the dismantlement would begin. Second, the DPRK was obligated to be in “full compliance” with IAEA safeguards when a “significant portion of [the LWR] project is completed, but before the delivery of key nuclear components.” Compliance was expected to include a full rendering of North Korea’s reprocessing activities during the late 1980s, when (as noted previously) the intelligence community believed that the North may have separated sufficient plutonium to fabricate one or two nuclear weapons. Third, North Korea was required to disclose the location and allow inspection of all undeclared nuclear sites, but not until a “significant portion” of the first LWR had been completed. Fourth, North Korea was obligated to can the eight thousand spent fuel rods and place them in a cooling pond, with all spent fuel to be removed from the DPRK once the nuclear components for the first LWR began to arrive in the DPRK and after the North was judged in full compliance with IAEA safeguards.

For better or for worse, the Agreed Framework and the KEDO accords defined the overall context of U.S.–North Korean relations for the remainder of the Clinton administration. The agreement immediately provoked major criticisms from the Republican opposition, as well as from then ROK president Kim Young-sam, who argued that the agreement had been consummated without sufficient regard for the ROK’s sovereign interests.<sup>29</sup> The combination of domestic objections in the United States (greatly strengthened when the Republicans



captured control of the Congress in the 1994 midterm elections) and a disgruntled South Korean ally severely impeded fulfillment of the Agreed Framework's milestones. KEDO (though led by the United States) relied almost entirely on financial support from the ROK, Japan, and piecemeal contributions from other governments solicited on an annual basis; long-term funding seemed virtually out of the question. With the project proceeding much more slowly than stipulated under the accord, there were growing North Korean complaints of energy and economic losses it was supposedly sustaining as a consequence of the Agreed Framework, as well as parallel demands that the United States compensate Pyongyang for these losses.<sup>30</sup>

North Korea also proved very selective in pursuing ancillary portions of the accord. Although Pyongyang expeditiously froze the nuclear activities specified in the agreement, it was not ready to accelerate fuller political relations with the United States. The Clinton administration was far more intent than its North Korean counterparts on establishing liaison offices in both capitals. The DPRK preferred to work with U.S. officials through its UN mission or in negotiations in various foreign capitals, and it repeatedly blocked proposals that would have enabled a regular U.S. diplomatic presence in Pyongyang. North Korean officials

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may well have believed that the delay in the opening of liaison offices might induce the United States to implement the Agreed Framework more rapidly, but this

proved a miscalculation. However, North Korea was now on the American radar screen, and leaders in Pyongyang clearly understood how to prompt attention to the North's expressed needs. The administration's foreign policy critics saw this factor as one of the major weaknesses of Clinton administration strategy toward the North—in the judgment of the critics, Pyongyang led and Washington followed.

North Korea also understood that the Clinton administration was increasingly concerned about possible breakthroughs in North Korean ballistic missile development, both through its own deployments and by accelerated exports. In May 1993, the DPRK successfully flight-tested its Nodong 1 missile in the Sea of Japan. Though the missile test generated little reaction at the time (perhaps given the North's then-extant threat to withdraw from the NPT), it ultimately resulted in missile negotiations that paralleled the nuclear agreements. These talks were first held in April 1996; six additional rounds were undertaken over the next four years.

From the outset of the missile negotiations, Pyongyang demanded financial compensation from the United States in exchange for the DPRK's forgoing

additional sales. The Clinton administration repeatedly turned aside these entreaties. But North Korean statements suggested that Pyongyang might be willing to accept political and security compensation as well as heightened economic assistance as an alternative to cash payments. This possibility—in essence, an Agreed Framework for missiles—preoccupied senior U.S. officials for the remainder of President Clinton's tenure in office. This included a May 1999 visit to Pyongyang by former secretary of defense William J. Perry (by then a designated presidential envoy and policy coordinator for North Korea); a visit by a senior North Korean military official (Vice Marshal Jo Myung Rok) to the White House in October 2000; and the visit of Secretary of State Madeleine Albright to Pyongyang later the same month. It was only in late December 2000 that President Clinton ruled out a visit to the North Korean capital, thereby dashing any expectations of a last-minute "missile deal."

At the same time as the bilateral negotiations proceeded, three major factors had altered the larger context of U.S.–North Korean relations: the North's accelerated internal decline coincident with Kim Jong Il's steady consolidation of power, with Pyongyang depending ever more on an "aid based" survival strategy; continued evidence of North Korean missile development and lingering suspicions of covert nuclear weapons activity; and the election of a new Korean president (Kim Dae-jung) who advocated a much more accommodative stance toward the North than his predecessor. Foreign interlocutors were seeking to unlock Pyongyang's doors at every turn, providing the North with unparalleled leverage in its dealings with the outside world. North Korea sought to push its advantage. This included the August 1998 launch of a three-stage Taepodong 1 missile that flew over northern Honshu; mounting U.S. concerns about a suspect underground nuclear facility at Kumch'ang-ri (where U.S. intelligence feared North Korea might be building a covert plutonium production facility); and the ROK's ever-increasing cultivation of the DPRK, leading to the June 2000 visit of Kim Dae-jung to Pyongyang for the first-ever South-North summit.

Though North Korea's calculations toward relations with the United States and other powers operated at multiple levels, expectations of financial compensation were near the top of its list.<sup>31</sup> In a December 1998 meeting with U.S. officials intended to address the underground facility at Kumch'ang-ri, North Korean negotiators insisted that the United States would have to provide appropriate payment for an anticipated site visit. American negotiators continued to reject blatant North Korean appeals for direct compensation. When a U.S. inspection team visited the site five months later, it found no evidence of nuclear activity, but the United States did provide major increases in food aid following the visit. A second site visit the next May followed a comparable pattern. But U.S. officials sought to define any prospective bilateral agreement in political and

security terms. During his visit to Pyongyang in May 1999, William Perry broached a range of proposals designed to address North Korean nuclear activities outside the scope of the Agreed Framework and to forestall further ballistic missile development by the North. The following September, Pyongyang pledged a moratorium on further long-range missile tests as long as U.S.–North Korean missile negotiations continued. For its part, the United States announced a partial lifting of economic sanctions long imposed on the North.

In mid-October 1999, former secretary Perry submitted his long-awaited report to President Clinton, which argued for a

comprehensive and integrated approach . . . [designed to ensure] that the DPRK does not have a nuclear weapons program. We would also seek the complete and verifiable cessation of testing, production, and deployment of missiles exceeding the parameters of the Missile Technology Control Regime, and the complete cessation of export sales of such missiles and the equipment and technology associated with them. [In return, . . .] the United States and its allies would, in a step by step and reciprocal fashion, move to reduce pressures on the DPRK that it perceives as threatening. . . . If the DPRK moved to eliminate its nuclear and long-range missile threats, the United States would normalize relations with the DPRK, relax sanctions that have long constrained trade with the DPRK, and take other positive steps that would provide opportunities for the DPRK.

Should North Korea be unprepared to accept the U.S. proposal, the report concluded, “it will not be possible for the United States to pursue a new relationship with the DPRK. In that case, the United States and its allies would have to take other steps to ensure their security and contain the threat.”<sup>32</sup>

The Perry report marked the beginning of a sustained effort at the highest levels of the Clinton administration to achieve a larger breakthrough in relations with North Korea. The circumstances were never more propitious for such a breakthrough, including the unequivocal endorsement of a U.S.–North Korea bilateral accord by ROK president Kim Dae-jung. Even as Pyongyang intermittently signaled interest in at least some of the policy objectives outlined in the Perry report, its negotiating tactics were inconsistent and frequently unresponsive to expressed U.S. concerns. In June 2000, the United States announced additional relaxations of long-standing trade sanctions against the North, with the DPRK reaffirming its moratorium on additional missile tests. But in a fifth round of missile talks weeks later in Kuala Lumpur, Pyongyang renewed its earlier demands for a billion dollars in annual compensation in return for halts in missile exports. The United States continued to spurn such demands, while conveying its willingness to expedite “economic normalization” with the DPRK in return for the North addressing U.S. security concerns.

Weeks later, in his first meeting with Russian president Vladimir Putin, Kim Jong Il again sought to advance a possible agreement with Washington. Kim promised the Russian leader that Pyongyang would cease its missile tests in exchange for countries (i.e., the United States) opposed to North Korean missile development facilitating North Korean satellite launches, presumably on U.S. rockets. A month later, however, Kim told a group of visiting South Korean publishers and journalists that his proposal had been made “in humor,” thereby calling into question the seriousness of his previous offer. But senior U.S. officials continued to pursue these possibilities, culminating in the October visits of Vice Marshal Jo to Washington and Secretary of State Albright to Pyongyang, where she met at length with Kim Jong Il, the first American official to do so.

At the conclusion of Vice Marshal Jo’s visit, both governments pledged that they would “fundamentally improve their bilateral relations.” Toward this end, “the two sides stated that neither government would have hostile intent toward the other and continued the commitment of both governments . . . to build a new relationship free from past enmity. . . . The two sides [also] agreed that resolution of the missile issue would make an essential contribution to a fundamentally improved relationship between them and to peace and security in the Asia-Pacific region.”<sup>33</sup>

Several former Clinton administration officials (notably Secretary Albright and Perry’s successor as Special Coordinator for North Korean Affairs, Ambassador Wendy Sherman) believed that a missile agreement was within reach in the waning weeks of the Clinton presidency but that a presidential visit to Pyongyang would be required to achieve it.<sup>34</sup> Vice Marshal Jo delivered a letter from Kim Jong Il inviting President Clinton to Pyongyang; First Vice Minister of Foreign Affairs Kang Sok Ju (also a delegation member) reportedly outlined the prospective content of an agreement, including restraints on future missile development and export. During Albright’s visit to Pyongyang, Kim Jong Il informed her that North Korea would refrain from further tests of the Taepodong 1 missile. According to Selig Harrison, Kim Jong Il also informed Albright that “North Korea would be prepared to negotiate an immediate freeze on long-range missile testing and development and to stop all exports of missiles and missile components, provided that the United States offered sufficient economic aid and other inducements in return, including arrangements to launch North Korean scientific research and communications satellites.”<sup>35</sup> Kim Jong Il clearly hoped that the allure of a major breakthrough in U.S.–North Korean relations would convince Bill Clinton to undertake a visit to Pyongyang in the waning weeks of his presidency. However, the prospective agreement seemed far too contingent and uncertain to warrant a high-risk trip, and on 28 December the president demurred.



During 1999 and 2000 the Clinton administration had also begun to receive scattered reports that North Korea was exploring a covert nuclear enrichment option in evident violation of its commitments under the Agreed Framework. But the evidence was far from definitive. Pyongyang was also voicing mounting impatience with what it deemed laggard progress on the reactor project. As the 2003 target date for installation of the first reactor approached, North Korean statements assumed a sharper edge. On 22 February 2001, a DPRK Foreign Ministry spokesman stated: "If [the United States] does not honestly implement the Agreed Framework[, . . .] there is no need for us to be bound to it any longer. We cannot but consider the existence of KEDO as meaningless under the present situation when no one can tell when the LWR project will be completed." On 18 June 2001, the same source warned that "the Agreed Framework is in danger of collapse due to the delay of the LWR provision."<sup>36</sup> The DPRK was trying to build a case for compensation for the project delays, even as these delays deferred Pyongyang's obligations to fully disclose its past nuclear history and identify all its nuclear sites. But Pyongyang was also warning that it might decide to walk away from its obligations under the Agreed Framework if there were further delays in completion of the first phase of the reactor project. As the Bush administration took power, U.S.–North Korean relations remained uncertain, incomplete, and far from satisfactory for either country.

#### THE BUSH ADMINISTRATION AND NORTH KOREA

The Bush administration assumed office convinced that President Clinton and his top advisers had been far too solicitous of North Korea and that Pyongyang had not undertaken the requisite steps for verifiable threat reduction, which the new administration believed essential to genuine accommodation. The new leadership team also needed to review the negotiating record of the preceding eight years. At the same time, the Bush administration's determination to accelerate pursuit of national missile defense to protect the United States against potential "rogue state" missile threats had North Korea more in mind than any other state, given that its missile program was far more advanced than that of Iran or Iraq. The new administration also expressed its determination to rebuild America's major Asian alliances, which it believed had been undermined during President Clinton's tenure in office. However, this pledge was far more relevant to Japan than to the ROK. President Bush's senior Asian advisers were fully aware that President Clinton had achieved a close working relationship with South Korean president Kim Dae-jung, who in the aftermath of his June 2000 visit to Pyongyang had been increasingly committed to pursuit of the "Sunshine Policy" toward the DPRK. Kim saw the outcome of the Perry review process and the Clinton administration's pursuit of a larger political breakthrough with the

North as vindicating his efforts to dismantle a decades-long threat-driven policy on the peninsula. But he also understood the risks to his larger policy initiatives if he and the Bush administration were working at cross-purposes.

Less than three weeks after the Bush administration assumed office, Kim Dae-jung dispatched Minister of Foreign Affairs and Trade Lee Joungeun to Washington. Lee briefed Secretary of State Powell on ROK policy toward the North, sought a renewed U.S. endorsement of the Sunshine Policy, and lobbied for “a meeting between President Bush and President Kim at the earliest possible time.”<sup>37</sup> Although Secretary Powell offered a broad endorsement of ROK policy,

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he also made reference to specific U.S. policy concerns with the North that were under review by the new administration. A month

later, Kim Dae-jung traveled to Washington for a working meeting with President Bush. On 6 March (the day prior to the scheduled meeting between the two leaders), Secretary of State Powell declared that the Bush administration “plan[s] to engage with North Korea to pick up where President Clinton left off. Some promising elements were left on the table and we will be examining those elements.”

President Bush offered no comparable assurance to Kim Dae-jung. The president declared that he “look[s] forward to, at some point in the future, having a dialogue with the North Koreans, but that any negotiation would require complete verification of the terms of a potential agreement.” (The stated U.S. preference for “dialogue” rather than “negotiation” would recur during the renewed nuclear crisis.) The president voiced open skepticism about the trustworthiness of Kim Jong Il and whether the North was “keeping all terms of all agreements.” The president’s public remarks prefigured a deeply held animus toward Kim Jong Il that he conveyed with evident emotion in an August 2002 interview with Bob Woodward.<sup>38</sup> In addition, he emphasized that the administration was still in the midst of a larger review of its policy options toward Pyongyang. Secretary Powell distanced himself from his comments of the previous day, making clear that early resumption of negotiations with the North was not in the offing. President Bush’s remarks were a sharp and humiliating rebuke to Kim Dae-jung, and the ROK president reportedly took ample offense. North Korea wasted little time in reacting to the president’s statement, canceling ministerial-level talks scheduled for Seoul the following week and harshly criticizing what it characterized as “hostile” U.S. policy. Pyongyang reiterated that it was “fully prepared for both dialogue and war.”

Following extensive internal deliberations over U.S. policy options, on 6 June President Bush announced completion of the administration’s North Korea

policy review, reportedly following a private intervention by former president George H. W. Bush at the behest of his former national security aide Donald Gregg, president of the Korea Society and a leading advocate of the Sunshine Policy.<sup>39</sup> The administration called for a “comprehensive approach,” encompassing “a broad agenda that includes missile, nuclear, and conventional force issues and humanitarian concerns. . . . [I]f the DPRK takes serious steps to improve relations with the United States, we are prepared to expand our efforts to help the North Korean people, ease sanctions, and take other political steps.”<sup>40</sup> The administration’s approach assumed “improved implementation of the Agreed Framework,” “verifiable constraints” on North Korean missile development, and “a less threatening conventional military posture.”

During a late July visit to Seoul, Secretary of State Powell indicated that the United States had “no preconditions” to a resumption of talks with Pyongyang, but a much more arms-length quality increasingly defined U.S. policy. Though the administration was prepared to continue support for the Agreed Framework and provision of food aid, it would not resume where its predecessor had left off.<sup>41</sup> In the absence of substantial changes in North Korean policy, the United States would not undertake major new initiatives with the North, let alone be drawn into open-ended negotiations akin to those of the Clinton administration, which many senior officials judged demeaning and simply not worth the effort. Improved relations with the North would not be a high priority for the new administration; the DPRK had first to address major U.S. policy concerns before the United States would pursue improved relations. Pending future developments, U.S. policy toward North Korea was on hold.

North Korean officials took undoubted offense at the sharp turn away from Clinton administration policy and at the president’s clear distaste for Kim Jong Il. Kim nonetheless sought to keep the door ajar to the United States, informing a visiting European Union delegation in May 2001 that North Korea would maintain its promised moratorium on missile testing until 2003. He reiterated this pledge in a second meeting with Russian president Putin in August. U.S. officials took note of these pledges but judged them an insufficient basis for high-level exchanges. A far more circumscribed policy toward Pyongyang reflected the administration’s emergent attention to the growing risks of nuclear and missile proliferation, in which North Korea figured prominently. The new policy also reflected the importance that the administration attached to defending against future ballistic missile threats, beginning with a hypothesized North Korean intercontinental-ballistic-missile threat to the United States. The Bush administration, seeing no particular need or incentive to invest major time and effort in conciliating the North, had opted for a waiting game with Pyongyang.

The terrorist attacks of 11 September further reaffirmed the diminished U.S. policy priority attached to engaging North Korea and strengthened the administration's predisposition to view Pyongyang as a looming danger, not a negotiating partner. Although the DPRK signed several antiterrorist international protocols in the aftermath of the terrorist attacks, the administration's larger view of North Korea had turned even harsher. A succession of policy pronouncements by the administration, beginning with the president's 29 January 2002 State of the Union address characterizing North Korea as part of the "axis of evil," diminished further the prospects for renewed high-level exchanges with the North. Other disclosures and policy statements, including the prospective use of nuclear weapons in a major Korean contingency outlined in the 2001 Nuclear Posture Review and reported in mid-March 2002; the president's June 2002 speech at the U.S. Military Academy; and the September 2002 release of *The National Security Strategy of the United States of America*—all elevated North Korea to one of America's defining national security threats.<sup>42</sup>

The characterization of North Korea and Iraq as the primary "rogue state" threats was designed to warn Baghdad and Pyongyang, not propitiate them. According to the policy document, "rogue states" pursued repression of their citizens, threatened neighboring states, violated international treaties, sought weapons of mass destruction (WMD) to intimidate others, served as sponsors of terrorism, and rejected American values. The administration's additional requirement for "new methods of deterrence" against any potential use of WMD meant that it did not feel bound by previous policy commitments, including the Agreed Framework pledge that the United States would "provide formal assurances" that it would neither threaten nor use nuclear weapons against the DPRK. In the words of a December 2002 addendum to the national security strategy, "The United States . . . reserves the right to respond with overwhelming force—including resort to all our options—to the use of WMD against the United States, our forces abroad, and our allies."<sup>43</sup>

The only exception to this bill of particulars for Pyongyang was the absence of any U.S. allegations of active North Korean links to terrorist groups. Subsequent events (to be explored below) would further differentiate U.S. policies toward Iraq and North Korea, but the immediate message and political effects were beyond dispute. "Rogue states" had been deemed a defining security concern in the administration's national security strategy. This placed primary attention on deterring and defending against WMD use and, if necessary, undertaking preemptive actions to forestall imminent threats to the security of the United States. Unlike the Clinton administration, which had viewed Pyongyang as an interlocutor with whom threat reduction could be negotiated, the Bush administration (especially in a post-11 September context) saw North Korea as an emergent

and potentially much larger danger. Despite these characterizations, Secretary of State Powell acknowledged Pyongyang's continued adherence to its promised missile test moratorium, as well as to the North's upholding of its commitments under the Agreed Framework.<sup>44</sup> But the secretary's insistence that the United States was ready to resume a dialogue with Pyongyang "without any preconditions" had already assumed a somewhat ritualized quality; there was little, if any, prospect of serious negotiations.

DPRK officials had long and assiduously followed U.S. security policy debate, with North Korean media paying exacting attention to various U.S. policy documents. Having been cultivated and validated under the Clinton administration's engagement policies, the North's leadership was especially attentive to perceived slights to its international status, in particular any diminished U.S. willingness to deem the DPRK a credible or legitimate interlocutor. Once the renewed nuclear crisis unfolded fully in October, North Korean statements regularly cited President Bush's inclusion of the North in the "axis of evil" and the administration's preemption doctrine as virtual declarations of war that justified the DPRK's withdrawal from the NPT. Given that North Korean media frequently resorted to hyperbolic language to characterize U.S. intentions, it is possible and even likely that U.S. officials paid little heed to the North's statements. North Korea may have drawn worst-case conclusions from changes in U.S. declaratory policy, but the DPRK probably felt slighted as much as threatened.

However, North Korea did not close all doors to discussions with Washington. On 31 July 2002, Secretary of State Powell met briefly in Brunei with the DPRK minister of foreign affairs, Paik Nam Sun. On 7 August, Charles Pritchard, the U.S. special envoy to North Korea and U.S. representative to KEDO, traveled to Kumho, the site of the light-water reactor project, where concrete was being poured for the first of the LWRs. Pritchard was the highest U.S. official visitor to the DPRK since Secretary of State Albright in October 2000. Though the KEDO process seemed to be making halting progress, the DPRK Foreign Ministry spokesman warned on 13 August that "the Agreed Framework stands at the crossroads of abrogation or preservation due to the substantial delay in the provision of the LWRs."<sup>45</sup> But other developments soon swamped these warnings, leading inexorably to the end of the Agreed Framework only four months later and the host of unresolved challenges that at this writing confront the Bush administration.

### *The Enrichment Program*

The summer of 2002 intelligence findings on North Korea's enrichment activities triggered a succession of events that sharply redefined U.S. policy options on the peninsula. U.S. policy by the end of 2002 seemed reactive if not passive, even as North Korea appeared determined to change facts on the ground as rapidly as



its technical capabilities would allow. Given the limited intelligence data on nuclear developments in the North and the paucity of detailed knowledge about the deliberations of U.S. and North Korean policy makers, any rendering of events during the latter half of 2002 is necessarily incomplete. Many of the contentions by U.S. and North Korean officials remain under dispute, and there are equally divided judgments about the extent and purposes of North Korea's enrichment activities. However, enough information is available to scrutinize critically the available data as well as evaluate various official claims.

Although the administration initially avoided highlighting the mounting evidence of an enrichment program, by the early fall of 2002 this restraint had ended. Indeed, officials from both countries opted to exploit the intelligence for political purposes. To senior American officials who entertained serious reservations about, or were overtly opposed to, U.S.–North Korean nuclear and missile diplomacy, the evidence of North Korean malfeasance furnished powerful ammunition to render the Agreed Framework a dead letter. Other U.S. officials may have hoped that the renewed nuclear crisis might enable a more satisfactory and durable recalibration of earlier agreements. In either event, the changes in U.S. policy toward the North triggered larger policy consequences that have redefined the East Asian political and security landscape.

The existence of a parallel debate in Pyongyang is necessarily more conjectural, though there are some suggestive hints of this possibility. Various North Korean officials had grown increasingly frustrated by what they deemed inattention, unreasonable slights, or outright threats by the Bush administration. As a consequence, leaders in Pyongyang quickly sought to exploit the opening presented by the U.S. decision to cease its commitments under the Agreed Framework. DPRK officials made good on their past veiled threats to resume the North's long-frozen indigenous nuclear program. It is possible that some North Korean officials believed that the breaking of these constraints would enable them to "trade" these resumed activities in subsequent negotiations with the United States. Others may have concluded that they had passed the point of no return with the United States, with the longer-term survival of the DPRK now inextricably tied to the declared possession of nuclear weapons, or at least the far more credible threat of such an option. However, the available information does not allow definitive judgment on this issue. Our intent in the remainder of this article is to: describe what U.S. officials may have believed about the renewed nuclear activities detected in the North; assess how the Bush administration redefined its policy goals toward the North in light of this information; and review how officials in Pyongyang decided to respond to the United States, resulting in the final breakdown of the Agreed Framework in late 2002 and early 2003.

There are two types of fissile material used for nuclear weapons fabrication: weapons-grade plutonium (a by-product of nuclear fission containing sufficient proportions of the plutonium-239 isotope) or uranium enriched to 93 percent with the uranium-235 isotope.<sup>46</sup> Although there are a range of methods to enrich uranium from its natural 0.7 percent content of U-235, gas-centrifuge technology presently constitutes the most practicable, cost-effective method for states intent on pursuing a covert enrichment capability. This still leaves the question of plutonium versus enriched uranium as the preferred path to weapons development. There are advantages and liabilities to both options in terms of reliability and efficiency of design; volatility and availability of materials; complexity, cost, and ability to avoid detection; and the fissile material requirements for different types of nuclear weapon designs. The history of nuclear proliferation suggests that there is no optimal path, though the much larger quantity of fissile material required for weapons using highly enriched uranium would appear to argue for reliance on plutonium. But the properties of a plutonium weapon entail a more complex and less readily predictable bomb design. Each country's nuclear history, moreover, has proven different, depending on the scale of its nuclear ambitions and the specific technologies to which it has gained access.

North Korea's graphite-moderated reactor provided a ready means for plutonium generation once the North had built a reprocessing facility for chemically separating the plutonium in the spent fuel rods removed from the reactor. Though the reactor could generate heat for industrial use, the lack of a power grid at Yongbyon invalidated claims that it was designed for feeding electricity to a grid. However, the nuclear activities covered under the Agreed Framework were limited to declared sites associated with the North's extant reactor program and "related facilities." North Korea was not obligated to allow inspection of any undeclared sites until a "significant portion" of the first LWR was completed.

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*With both countries putting forward maximal, nonnegotiable policy positions, the subsequent collapse of the Agreed Framework was virtually foreordained.*

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North Korea had pledged under the Agreed Framework to pursue the goals outlined in the South-North nuclear agreement (including a commitment "not [to] possess nuclear reprocessing

and uranium enrichment facilities"), but DPRK spokesmen now assert that the denuclearization accord is a dead letter, thereby presumably invalidating any pledge not to pursue an enrichment capability.<sup>47</sup>

Equally important, enrichment facilities serve an entirely legitimate civilian purpose—they provide the means for fabricating the low-enriched uranium (i.e., fuel enriched to approximately 4.4 percent uranium-235) to power

light-water reactors. Numerous signatories to the NPT possess such reprocessing capabilities, though under IAEA regulations such sites must be declared and remain open for inspection. Here again, the North may well have believed that it retained wiggle room, pending completion of a significant portion of the first LWR. Absent a more extensive fulfillment of KEDO's milestones, North Korea probably felt little compunction about nondisclosure of its enrichment activities and may have believed that it had little to lose by doing so. The very small circle of DPRK officials who were likely informed about the enrichment efforts probably recognized that early disclosure of these activities would almost certainly trigger a major reaction from an American administration already disinclined to collaborate with the North. It seems entirely plausible that Pyongyang envisioned the need for an indigenous enrichment capability once the LWRs were installed; the fuel requirements for a pair of thousand-megawatt reactors are substantial and open ended. The KEDO-DPRK Reactor Supply Agreement of 15 December 1995 committed KEDO to provide "LWR fuel for the initial loading for each LWR plant . . . in accordance with standard nuclear industry practice." Though KEDO was further obligated "to assist the DPRK to obtain LWR fuel" for the useful life of the reactor, the contracts were to be signed "with a DPRK-preferred supplier," leaving the ultimate choice of a supplier to the North.<sup>48</sup> Given the DPRK's clear determination to avoid long-term dependence on external sources of nuclear fuel, the North may well have been seeking such a capability for itself, or at least wanted to explore the feasibility of such an undertaking.<sup>49</sup> But the acquisition of gas centrifuge technology would also provide the North an alternative if far more protracted path to a nuclear weapons option.

A final but especially significant factor remains overlooked in the larger story of the U.S. intelligence findings—North Korea had no operational enrichment facility to declare. As noted by the CIA in an unclassified November 2002 estimate provided to the Congress, construction of a centrifuge facility was not initiated "until recently. . . . Last year the North began seeking centrifuge-related materials in large quantities. . . . We recently learned that the North is constructing a plant that could produce enough weapons-grade uranium for two or more nuclear weapons per year when fully operational—which could be as early as mid-decade."<sup>50</sup> The intelligence community believed that North Korea still confronted daunting obstacles had it decided to build an enriched-uranium weapon, or even to acquire the production capabilities that might ultimately permit such an option.

Some of these obstacles become clearer by reviewing the technologies involved in these processes.<sup>51</sup> According to Richard Garwin, a leading authority on nuclear power and nuclear weapons design, a U-235 gun-type weapon design requires approximately sixty kilograms of enriched uranium to fabricate

a single weapon, a process that would entail full-time operation of 1,300 high-performance centrifuges for approximately three years to accumulate sufficient fissile material. An implosion-type weapon design akin to that employed by Pakistan in its 1998 tests might require somewhat less than half this amount. By comparison, a nuclear weapon using plutonium requires approximately six kilograms of fissile material, though the needed materials are much more volatile and prone to failure. Garwin defines a high-performance centrifuge as one capable of achieving three separative work units (SWUs) per year, a throughput measure for isotope separation in a single centrifuge. When assembled in a cascade, gas centrifuges yield specific quantities of enriched uranium; depending on the level of enrichment, the resulting product can be applied for civilian or military purposes.<sup>52</sup> Although more advanced centrifuge technologies now available on the enrichment market enable much higher production rates, there is no possibility that North Korea had access to such state-of-the-art equipment. One report suggests that the centrifuges available to North Korea would have been able to perform at the capacity of as little as one SWU per year, though Matthew Bunn, a leading authority on nuclear proliferation, believes that a capacity two or three times this level is plausible.<sup>53</sup>

The imprecision in the CIA analysis underscored the difficulties of estimating the extant capabilities and ultimate purposes of the North's enrichment program—a point that begs the question of how complete and compelling the intelligence data may have been on which the United States decided to confront North Korea. (We will return to this issue below.) At the same time, enrichment facilities are inherently dual capable, though the industrial materials required for successful enrichment at much higher levels (i.e., use of maraging steel rather than high-strength aluminum in centrifuge manufacture) is both more expensive and more difficult to acquire. In theory, a facility designed for low enrichment can be converted to high enrichment by the installation of additional centrifuges and tubing, enabling the repeated recycling of uranium hexafluoride gas to achieve higher enrichment levels, though the likelihood of equipment failure would be far higher when relying on more basic enrichment technology. Despite these constraints and the absence of an identified enrichment facility, senior U.S. officials had concluded that North Korea was pursuing an HEU capability, not one designed for civilian use.

As noted by Assistant Secretary of State Kelly, the initial reports of North Korean interest in enrichment technologies antedated the Bush administration. During the late 1990s, there were scattered reports that North Korea was showing an interest in centrifuge technologies as an alternative method for acquiring fissile material. One authority on North Korean weapons development, Joseph S. Bermudez, Jr., dates this interest from as early as the late 1980s. Bermudez cites

without further identification a 1999 Department of Energy document stating that the DPRK “is in the early stages of a uranium enrichment capability” being pursued in conjunction with Pakistan, though the DOE evidently deemed this a pilot activity rather than a precursor to a full-scale program.<sup>54</sup> Some scattered Japanese and South Korean reports during 1999 and 2000 indicated heightened North Korean interest in uranium-enrichment technologies, as well. According

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*The January 2003 document did not reiterate the assertions that Pyongyang already possessed one or two weapons.*

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to one unidentified South Korean Defense Ministry official, “in 1999, our military authorities obtained information that the North was trying to import enriched uranium

production facilities from abroad, and provided the intelligence to the United States.”<sup>55</sup> The bulk of this reporting focused on the increasingly intertwined relationship between Pakistan and North Korea, which emerged far more fully in press accounts once the United States decided in October 2002 to disclose information about North Korean enrichment activities.<sup>56</sup>

Despite the mounting evidence of North Korean efforts to acquire centrifuge technology, and intelligence findings that confirmed these judgments, the Bush administration initially avoided public disclosure of these findings and opted not to raise these concerns in discussions with Pyongyang. In a later interview Secretary of State Powell acknowledged that he had been apprised of the intelligence assessments before he met with his North Korean counterpart in Brunei at the end of July, conceding that “this enriched uranium program was going on. . . . Nevertheless, we wanted to move forward with the North Koreans.”<sup>57</sup> It seems quite probable that the administration, wholly absorbed by the looming possibilities of war with Iraq, did not want to be distracted by developments in other regions, no matter how worrisome some may have judged the possibilities. But the fact that North Korea had no operational enrichment capability and was years away from achieving one may have convinced officials that there was no urgency to the issue. It is thus possible that the administration had not yet decided on a preferred course of action. In either case, the new findings did not appear immediately to affect U.S. policy toward the North.

Four weeks later, the stunning disclosure of Japanese prime minister Junichiro Koizumi’s impending visit to Pyongyang triggered movement in U.S. policy.<sup>58</sup> The negotiations over a possible Koizumi visit had been conducted with the utmost secrecy within Japanese bureaucratic channels, evidently gaining momentum following renewed overtures from Pyongyang in October 2001.<sup>59</sup> Following a 25–26 August 2002 visit to Pyongyang, Hitoshi Tanaka, director general of the Asian-Oceanian Affairs Bureau of the Ministry of Foreign Affairs, informed the prime minister that the DPRK leadership was prepared for highly



substantive talks, including the history of North Korea's past abductions of Japanese citizens, an issue with deep emotional resonance in Japan. Following Tanaka's return to Tokyo, Koizumi on 28 August immediately ordered accelerated planning for a one-day visit to Pyongyang in mid-September. The prime minister had met the previous day with visiting Deputy Secretary of State Richard Armitage and had informed him of the impending public disclosure of his visit to the North, which was scheduled to be announced on 30 August. Given that messages had been passed between Pyongyang and Tokyo as early as the previous fall, the absence of prior communication between Japan and the United States on the prime minister's impending visit was remarkable enough in its own right. In the context of recent intelligence findings about North Korea's enrichment activities, the prime minister's last-minute disclosure to the United States was even more stunning to American officials.

In the aftermath of the prime minister's meeting with Deputy Secretary Armitage, the Bush administration moved quickly to close the information gap with Tokyo, very possibly beginning with the deputy secretary's immediate reactions to learning about Koizumi's impending plans. In addition, President Bush personally briefed the prime minister on North Korea's nuclear activities during the latter's visit to the United Nations on 12 September. According to one Japanese analyst, the prime minister was "shocked at the harshness" of the president's comments.<sup>60</sup> The U.S. ambassador to Japan, Howard Baker, briefed the prime minister on the new U.S. intelligence findings immediately prior to Koizumi's departure for Pyongyang. It is not known whether the United States urged a postponement or reconsideration of the prime minister's trip, but the Bush administration conveyed that it expected Koizumi to raise vigorously the nuclear issue during his visit.<sup>61</sup>

The prime minister's exchanges with Kim Jong Il suggest that Koizumi broached the nuclear issue primarily in terms of North Korea's fulfilling its prior commitments, although he also noted that "the United States has serious concerns about the issue of [North Korea's] nuclear weapons [program]. . . . [North Korea] should accept inspections . . . to allay the U.S. concerns."<sup>62</sup> On the issues of utmost concern to the United States (i.e., North Korean enrichment activities and its ballistic missile development and exports), Koizumi conveyed little urgency. The prime minister may not have fully grasped the import of the new nuclear developments to U.S. policy makers, but he also may have wanted to ensure a successful conclusion to the summit, during which Kim offered unprecedented apologies for the North's past abductions of Japanese citizens.<sup>63</sup> At the same time, Kim Jong Il faulted U.S. policies toward the North and made clear that the nuclear issue was not a relevant agenda item for the Japan-DPRK summit. As Kim argued, "The [nuclear] inspection is a problem between the United States

and the DPRK, and is not a topic for this summit.”<sup>64</sup> It is not at all certain that Kim had any more reason to anticipate the impending accusations by the United States after the Koizumi visit than before it.

### *The Kelly Visit*

In the aftermath of the Japan–North Korea summit, the Bush administration confronted the prospect of abrupt and unanticipated changes in the Northeast Asian political and security environment. The United States believed that Pyongyang had defaulted on fundamental policy commitments to Washington, at the precise moment when the DPRK had opened the door to a new relationship with America’s most important Asian ally and, prospectively, a major aid donor to the North. There was a real possibility that U.S. options on the peninsula would be driven increasingly by the policy agendas of others, perhaps enabling Pyongyang to achieve substantial breakthroughs at the expense of U.S. interests and without paying any price for its covert enrichment activities.

A week following Koizumi’s meeting with Kim Jong Il, the United States announced plans for the long-deferred visit of Assistant Secretary of State Kelly to North Korea on 3–5 October. State Department spokesmen claimed that Pyongyang had agreed to the comprehensive policy discussions that the administration had sought since the summer of 2001. This characterization suggested the prospect of breakthrough, not breakdown.<sup>65</sup> Nothing in the public depiction of the purposes of the Kelly visit even remotely hinted at an impending confrontation in Pyongyang. There is no reason to believe that U.S. officials had conveyed advance hints to the DPRK that the assistant secretary was coming to Pyongyang to deliver a stern message and little else. There is also no evidence to suggest that the United States sought any explanation or clarification from Pyongyang of the U.S. intelligence findings, or that Washington broached these issues with the IAEA prior to the Kelly visit.

Although the United States and North Korea agree on some of the broad details of the four meetings held over two days in Pyongyang, there are some significant differences in their respective renderings. By most accounts, Assistant Secretary Kelly wasted little time on diplomatic niceties, making clear that the U.S. intelligence findings precluded any possible forward movement in U.S.–North Korean relations. Other than informing DPRK officials and rebuking them for the North’s evident attempt to circumvent the Agreed Framework, the assistant secretary had no room for maneuver, given the instructions of his superiors. As Kelly himself subsequently observed,

I stated that the United States now had a pre-condition to further engagement—that the DPRK’s uranium enrichment program [had to] be dismantled immediately. . . . I did not confront the Vice Foreign Minister [Kim Gye Gwan] with specific evidence of

their uranium enrichment program, but I was emphatic that the U.S. knew the program was being aggressively implemented and it was a serious violation of international agreements. I asked the North Korean government to weigh its response carefully.

Kelly further asserts that Vice Foreign Minister Kim “angrily denied that the DPRK had an HEU [highly enriched uranium] program. He dismissed my statement, claiming it was a fabrication.”<sup>66</sup> In a final U.S.–North Korean meeting chaired on the DPRK side by First Vice Foreign Minister Kang Sok Ju, Assistant Secretary Kelly observed: “Kang . . . surprised me by making it quite clear, even before I was able to make my presentation, that North Korea was proceeding with an HEU program and that it considered the Agreed Framework to be ‘nullified.’ . . . [H]e tried to blame this situation on U.S. policy under the current Administration, but made no response when I pointed out that the HEU program began well before the current Administration.”<sup>67</sup>

The State Department demurred from any immediate disclosures concerning the results of the Kelly visit, not providing relevant details until a teleconference with reporters on 15 October. The congressional resolution endorsing Bush administration policy toward Iraq had been the primary focus of administration policy during the interim period; President Bush signed the resolution only a few hours before the State Department disclosed the outcome of the Kelly visit to reporters.<sup>68</sup> Administration spokesmen contended that North Korea admitted to the existence of a clandestine weapons program, as well as asserting that Pyongyang had declared its intention to terminate the Agreed Framework.

North Korean sources dispute several of the principal U.S. claims, though not the basic outline. In an extended discussion with diplomatic reporter Don Oberdorfer in early November, Vice Foreign Minister Kim Gye Gwan acknowledged that he had been “stunned” by Assistant Secretary Kelly’s opening statement. As Oberdorfer relates,

He [Kim] reported Kelly’s statements to his superiors at the first coffee break, setting off furious internal consultations. After an all-night meeting of its top officials, North Korea detonated its own verbal explosion the next day. First Deputy Foreign Minister Kang Sok Ju . . . told Kelly that the reclusive nation is “entitled to have nuclear weapons” to safeguard its security in the face of a growing U.S. threat. After a debate of their own, the Americans interpreted the statement to be an admission that Kelly’s charge was true.

Other statements cited by Oberdorfer suggest that the North sought to hold the United States accountable for the nullification of the Agreed Framework. In addition, North Korean officials interviewed by Oberdorfer “never denied seeking to enrich uranium in secret facilities, but portrayed their actions as a response to the Bush administration’s hostility. . . . [O]ur interlocutors [also] said

North Korea has adopted a 'neither confirm nor deny' policy about whether the program existed before Bush took office. They would also 'neither confirm nor deny' whether North Korea already possesses a nuclear weapon." Kang Sok Ju also insisted that the Agreed Framework, though hanging by "a thread," was not yet deemed inoperative by Pyongyang.<sup>69</sup>

North Korean officials characterize the 25 October statement from the Ministry of Foreign Affairs as the authoritative DPRK policy document on the Kelly visit.<sup>70</sup> It seems reasonable to assume that the statement drew extensively from Kang Sok Ju's rebuttal to Assistant Secretary Kelly. The statement accused the Bush administration of a "hostile attempt . . . to stifle the DPRK by force and backpedal [on] the positive development of the situation in the Korean Peninsula and the rest of Northeast Asia." As the document further alleged, "Producing no evidence, [Assistant Secretary Kelly] asserted that the DPRK has been actively engaged in the enriched uranium program in pursuit of possessing nuclear weapons in violation of the DPRK-U.S. Agreed Framework. He even intimidated the DPRK side by saying there would be no dialogue with the U.S. unless the DPRK halts [its enrichment activities], and the DPRK-Japan and North-South relations would be jeopardized."

Though not expressly contesting U.S. claims, the report accused the United States of continuing to threaten the DPRK with nuclear weapons and of failing to carry out nearly all of its obligations under the Agreed Framework, "calculating that the DPRK would collapse sooner or later." According to the MFA statement, American characterizations of North Korea as part of the "axis of evil" and as a prospective target for "preemptive nuclear strike" were "a gross violation of the basic spirit of the Nonproliferation Treaty, [and] reduced the inter-Korean joint declaration on denuclearization to a dead document." The statement concluded, "Nobody would be so naïve as to think that the DPRK would sit idle under such a situation. That was why the DPRK made itself very clear to the special envoy of the U.S. president that the DPRK was entitled to possess not only nuclear weapons but any type of weapon more powerful than that so as to defend its sovereignty and right to existence from the ever-growing nuclear threat by the U.S."<sup>71</sup>

The Ministry of Foreign Affairs document then presented the basis for a "grand bargain," one that had reportedly been aired in the Kelly-Kang exchanges:

The DPRK, with greatest magnanimity, clarified that it was ready to seek a negotiated settlement of this issue on the following three conditions: firstly, if the U.S. recognizes the DPRK's sovereignty; secondly, if it assures the DPRK of nonaggression; and thirdly, if the U.S. does not hinder the economic development of the DPRK. . . .

[T]he DPRK considers that it is a reasonable and realistic solution to the nuclear issue to conclude a nonaggression treaty between the DPRK and the U.S. . . . If the U.S.

legally assures the DPRK of nonaggression, including the nonuse of nuclear weapons against it by concluding such a treaty, the DPRK will be ready to clear the former of its security concerns.

There were no explicit calls for financial compensation from the United States. All subsequent North Korean statements, to this writing, essentially adhered to the proposals outlined in the 25 October document.

However, the administration seemed determined to deny Pyongyang the satisfaction of a direct response to this or to succeeding statements, which senior officials contended would reward North Korea for its violations of the Agreed Framework and related nonproliferation commitments. Administration spokesmen repeatedly insisted that the renewed confrontation did not constitute a crisis but a “serious situation,” to which they sought a “peaceful resolution . . . through diplomatic channels.”<sup>72</sup> Subsequent declarations (including several by President Bush) emphasized that the administration had “no hostile intent” toward Pyongyang, “no intention to invade” the North, or (less frequently) “no intention to invade or attack” the DPRK.<sup>73</sup> But the administration insisted that pursuit of a diplomatic option did not extend to direct negotiations with North Korea, only to consultations with Pyongyang’s neighbors. Senior administration officials repeatedly asserted that regional actors had more influence over the DPRK and would therefore be better able than the United States to induce the North to reverse its renewed nuclear activities. This claim justified the U.S. decision not to pursue a direct channel to Pyongyang. To varying degrees, the ROK, Japan, Russia, and China all disagreed with the administration’s declaration that it would “talk” but not “negotiate” with the DPRK. But the United States remained unmoved by the calls of North Korea’s immediate neighbors for Washington to seek a bilateral understanding with Pyongyang.

The administration also faced a profound disparity in its strategies and policies toward Iraq and North Korea, the only two countries identified as “rogue states” in the September 2002 national security strategy document. Despite North Korea’s far greater military power, its vastly more developed nuclear and missile capabilities, the immediate threat that North Korea posed to U.S. military personnel deployed on the Korean peninsula, and its widespread sales of ballistic missiles in highly volatile regions, President Bush continued to insist that Iraq represented a “unique” case that had to assume precedence in U.S. military plans.<sup>74</sup> American officials asserted that there were four essential differences between the two cases: North Korea had not used WMD capabilities against its own people or against neighboring states; the DPRK was not in defiance of Security Council resolutions; North Korea was not accused of any current links to terrorist groups; and the United States believed that regional actors (especially



China) had a greater capacity to pressure or induce Pyongyang to forgo its nuclear weapons capabilities and to dismantle its extant programs.

The administration devoted far less public attention to other factors that dominated its strategies toward the North. First, the United States had neither the desire nor the wherewithal to activate a second major military front simultaneous with the mounting possibilities of war with Iraq. Decisions on Korea policy would be deferred, pending the outcome of the Iraq crisis. Second, U.S. defense planners were keenly aware of the lack of realistic military options for definitively eliminating the North's nuclear weapons potential. Even if U.S. planners contemplated a disabling strike on the reprocessing plant, it seemed highly likely that such an action would trigger a major North Korean attack on the South as well as a profound crisis in the U.S.-ROK alliance. Third, the United States believed that North Korea's own military options were also highly circumscribed, and possession of a few nuclear weapons would not appreciably alter this assessment.<sup>75</sup>

Fourth, despite the administration's dire warnings about the North's enrichment activities, most officials recognized that the path to a meaningful enrichment capability remained a distant and very uncertain possibility. This more patient view presumably did not apply as fully to the prospective reactivation of Pyongyang's plutonium program, which received less attention in the immediate aftermath of the enrichment disclosures.<sup>76</sup> At least initially, the administration did not appear overly exercised by either potential path to weapons development. This may have reflected a predominant U.S. view that Pyongyang was seeking to induce the United States to resume direct negotiations, rather than proceeding directly to finished weapons. Fifth, the administration did not want to repeat what it deemed its predecessor's grievous errors in its negotiations with Pyongyang. The United States could therefore afford to wait and let Pyongyang incur the international opprobrium that would inevitably follow its nuclear defiance. This included the halting of any prospective forward movement in Japanese-North Korean relations. Sixth, some may have believed that time was simply not on Pyongyang's side. A policy of international ostracism, containment, and reinforced defense (including missile defense) would deny Pyongyang any presumed political gains from its nuclear and missile programs and might even lead to the ultimate collapse of the North Korean system, even if such an outcome might trigger severe instability and potential military dangers.

With the United States unwilling to engage in direct substantive exchanges with North Korea and with Pyongyang seeking to turn the tables on Washington, the impasse that materialized at the time of Assistant Secretary Kelly's visit had grown wider.

## THE AGREED FRAMEWORK UNRAVELS

The deadlock in U.S.–North Korean relations evident in early October quickly went from bad to worse. The Bush administration was unprepared to resume direct negotiations with Pyongyang, and the DPRK proved equally unwilling to reverse course. The fate of the Agreed Framework hung in the balance, as both states deliberated their next steps. As early as 19 October, senior administration officials informed David Sanger of the *New York Times* that the Agreed Framework “as we know it is dead,” while still leaving undetermined whether Washington would abandon the agreement in its entirety.<sup>77</sup> The immediate issue was the continuation of the U.S. monthly heavy-fuel-oil allotment to Pyongyang, as stipulated under the Agreed Framework. The oil delivery for October had proceeded as planned, but the administration had not decided whether to proceed with future deliveries.

The policy debate was fought openly in the press. On 24 October, a senior State Department official participating in the Asia-Pacific Economic Cooperation (APEC) meeting in Mexico informed Karen DeYoung of the *Washington Post* that he was not yet prepared to characterize the Agreed Framework as dead: “I have not yet used the four-letter word—[and] have no plans to do so, at least at this time.

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*Had its ongoing activities not been halted, North Korea would have ultimately developed the means to fabricate significant numbers of nuclear weapons.*

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No decision has been made. . . . I’m not ruling out direct contact or communications with the North Koreans. If they call us, we’ll listen, and I hope vice versa. But that’s not negotiating.”<sup>78</sup> The next day,

speaking to the same newspaper, a senior administration official in Washington excoriated the State Department source in exceedingly blunt terms, characterizing the previous day’s statement as a “serious breach” in U.S. policy that suggested “a State Department in revolt.” The senior official stated, “There is a discipline problem here, whether it’s the person who did the [Mexico] briefing, or someone else in the State Department. . . . [W]hat that person said . . . may represent his view, the State Department view, but it does not represent the administration view.”<sup>79</sup>

In the aftermath of this open contention, the administration soon made its decision: the United States, with the concurrence of the ROK and Japan, opted to suspend further heavy-fuel-oil deliveries to the DPRK.<sup>80</sup> This decision proved fateful. A week later Pyongyang declared that the Agreed Framework had collapsed, arguing that the deliveries were the only portion of the agreement that the United States had ever carried out.<sup>81</sup> An IAEA resolution of 29 November urging the North’s immediate compliance with its nonproliferation obligations was brusquely rejected in a 2 December letter from Foreign Minister Paik Nam Soon to Mohamed ElBaradei, general director of the IAEA Board of

Governors.<sup>82</sup> On 12 December, the DPRK Foreign Ministry spokesman, claiming acute energy shortages following suspension of the fuel oil shipments, declared that the North would end its commitment to the Agreed Framework, restart operations at its mothballed nuclear facilities, and resume construction of the larger reactors suspended in 1994.<sup>83</sup>

The 12 December announcement initiated a succession of audacious, unilateral actions that in a matter of weeks began to roll back much of North Korea's eight years of nuclear restraint. In rapid succession, North Korea requested on 13 December that the IAEA withdraw its seals and cameras from the DPRK's declared facilities; stated on 19 December that the Agreed Framework now existed "in name only"; removed or otherwise disabled the locks and monitoring equipment at the reactor, cooling pond, fuel fabrication plant, and reprocessing facility—all between 21 and 24 December; announced the intended expulsion of the IAEA inspectors on 27 December, even as the inspectors reported that two thousand fresh fuel rods had already been loaded into the reactor; and notified the IAEA of its intention to reactivate its fuel reprocessing facility within several months, purportedly to ensure the safety of spent fuel rods that would be removed and stored following their use in the reactivated reactor and (once completed) in the larger reactors, where construction was expected to resume.

On 29 December, the Foreign Ministry spokesman declared that there was no way "to internationalize the nuclear issue on the Korean Peninsula. . . . [I]t is universally known that [this] issue . . . should be solved between the DPRK and the U.S., as it is the product of the latter's hostile policy in every respect." Accordingly, the spokesman declared that American actions were "compelling us to withdraw from the NPT"; only a legally binding security guarantee from the United States (including a nonaggression treaty with the DPRK) would satisfy Pyongyang.<sup>84</sup> On 10 January 2003, the DPRK announced its "automatic and immediate" effectuation of its withdrawal from the NPT and its "complete free[dom] from the restrictions of the safeguard agreement with the IAEA." Despite the national security justifications that pervaded the document, the DPRK statement presented its actions as necessitated by energy exigencies: "Although we withdraw from the NPT, we have no intention to make nuclear weapons; and in the current stage, our nuclear activities will be limited to only peaceful purposes, including electricity production. If the United States suspends its hostile crushing policy on us and clears away the nuclear threat, we could prove, through a separate verification between the DPRK and the United States, that we do not make nuclear weapons."<sup>85</sup> Pyongyang therefore sought to maintain its claims to special status that had pervaded its nuclear diplomacy since 1993. But the North couched its withdrawal from the treaty in terms that did not preclude an overt declaration of nuclear-weapons status at a future date.

Despite North Korea's abrupt reactivation of its plutonium program and its announced withdrawal from the NPT, the Bush administration maintained the studied equanimity evident since the nuclear confrontation became public knowledge in mid-October. There was a late-December initiative for a policy of "tailored containment" and periodic hints of flexibility should North Korea relent from its course of action, but the essence of the administration's approach remained unchanged—there would be no resumption of direct negotiations with the North.<sup>86</sup> The hints of flexibility were likely intended to reassure the incoming ROK presidential administration of Roh Moo-hyun, who had already voiced major reservations about U.S. policy toward the North. The Bush administration's continued insistence that North Korea's actions did not constitute a crisis reflected its determination to deny Pyongyang what it sought above all—a bilateral agreement with the United States, with both countries "sitting knee to knee."<sup>87</sup> It also seems likely that the administration was caught flat-footed by the speed and decisiveness with which Pyongyang had reactivated its long-dormant plutonium program.

Pyongyang's reaction to the cutoff of U.S. oil supplies suggested careful planning and execution, and a determination to change realities on the ground while the opportunity presented itself. Justifying its behavior by the inattention and misdeeds of its principal adversary was a time-honored North Korean strategy. It is possible that the DPRK might have ultimately decided to reactivate its plutonium program on its own initiative, but the oil cutoff made it far easier for Pyongyang to justify its actions. Putting aside the North's alarmist renderings of U.S. policy, President Bush and various senior administration officials regarded North Korea as an illegitimate government and a direct threat to vital U.S. security interests. Yet a profound contradiction persisted between the administration's ominous portrayal of North Korea in the new national security strategy document and the seeming composure with which the United States reacted to Pyongyang's flouting of its nonproliferation obligations, especially in comparison to the administration's single-minded focus on Iraq.

However, as North Korea steadily reactivated its plutonium program, senior administration officials began to warn that President Bush was keeping "all military options open."<sup>88</sup> As further stated by Assistant Secretary of State Kelly in mid-March 2003, the administration was "determined that North Korea not become a nuclear power, acknowledged or unacknowledged," without any administration official indicating what measures Washington might contemplate to prevent such an outcome.<sup>89</sup>

By discarding the Agreed Framework, the United States and North Korea decided that they preferred living with future uncertainties and dangers to sustaining or modifying an imperfect formula that had capped Pyongyang's nascent

nuclear-weapons program for nearly a decade. Over the longer run, it is possible that a successor to the 1994 accord addressing the declared concerns of both countries and of neighboring states might reconstitute previous constraints. At this writing, however, neither state exhibits much interest in such an outcome. Should Washington and Pyongyang adhere to the equivalent of default options as their long-term policies, a declared North Korean nuclear-weapons capability and the severest of future crises could yet loom. One or both states might ultimately be sobered by these possibilities, but this realization is not at hand.

26 March 2003

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#### NOTES

1. Unclassified Report to the Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions, 1 January through 30 June 2001 (Washington, D.C.: Central Intelligence Agency, January 2002), p. 5; Glenn Kessler, "No Support for Strikes against North Korea," *Washington Post*, 2 January 2003.
2. Foreign Missile Developments and the Ballistic Missile Threat Through 2015 (Washington, D.C.: National Intelligence Council, December 2001), p. 12. Emphasis added. The wording in this document is ambiguous. If the report was claiming that U.S. intelligence analysts had concluded that North Korea had produced these weapons in the mid-1990s, it reflected either reinterpretation of old data or the inclusion of new information in older estimates. If the authors were claiming that the CIA had made this determination in the mid-1990s, then the claim is patently false, or all intelligence assessments published in the 1990s were false, in as much as the December 2001 claim contradicts all intelligence assessments published during the latter half of the 1990s.
3. CIA Report to the U.S. Congress on North Korea's Nuclear Weapons Potential, 19 November 2002, as published on the website of the Federation of American Scientists ([www.fas.org/nuke/guide/dprk/nuke/cia111902.html](http://www.fas.org/nuke/guide/dprk/nuke/cia111902.html)). Emphasis added.
4. Unclassified Report to Congress on the Acquisition of Technology Related to Weapons of Mass Destruction, 1 July Through 31 December 2001 (Washington, D.C.: Central Intelligence Agency, January 2003), p. 5.
5. For relevant background, see David E. Sanger and James Dao, "U.S. Says Pakistan Gave Technology to North Korea," *New York Times*, 17 October 2002; Joby Warrick, "Quest for Metal Was Tip-Off," *Washington Post*, 18 October 2002; Doug Struck and Glenn Kessler, "Hints on North Korea Surfaced in 2000," *Washington Post*, 19 October 2002; Carla Anne Robbins and Zahid Hussain, "North Korea Had Russian Parts Suppliers," *Wall Street Journal*, 21 October 2002; Dan Stober and Daniel Sneider, "U.S. Knew about Nuclear Link Between North Korea, Pakistan," *San Jose Mercury News*, 23 October 2002; Kessler, "Pakistan's North Korea Deals Stir Scrutiny: Aid to Nuclear Arms Bid May Be Recent," *Washington Post*, 13 November 2002; and Sanger, "In North Korea and Pakistan, Deep Roots of Nuclear Barter," *New York Times*, 21 November 2002.
6. This paragraph draws on an unclassified CIA estimate on North Korean nuclear weapons potential provided to the U.S. Congress, 19 November 2002 (fn. 3). However, on 12 March 2003, James Kelly, Assistant Secretary of State for East Asian and Pacific Affairs, sharply contradicted this assessment. In testimony to the Senate Foreign Relations Committee, Kelly stated: "The enriched uranium issue which some have assumed is somewhere off in the fog of the distant future is not. . . . It is only probably a matter of months, not years, behind the plutonium [program]." Kelly provided no further elaboration or

- supportive technical data to substantiate this claim, nor did he allude to the CIA estimate issued four months earlier that put forward a much more cautionary estimate of the DPRK's enriched uranium potential. Despite his much less equivocal judgment, he also acknowledged "serious limitations . . . [in the U.S.] ability to verify the uranium enrichment [program]." See his remarks in "Regional Implications of the Changing Nuclear Equation on the Korean Peninsula," Hearing of the Senate Foreign Relations Committee, Federal News Service, 12 March 2003, pp. 9–10.
7. "President George Bush Discusses Iraq in National Press Conference," 6 March 2003, [www.whitehouse.gov/news/releases/20003/03/20030306-8.html](http://www.whitehouse.gov/news/releases/20003/03/20030306-8.html), p. 4.
8. See, for example, the comments of Deputy Secretary of State Richard Armitage in the summer of 2001. "U.S. Official Downplays Rocket Test," *Washington Times*, 7 July 2001.
9. For additional background, see James A. Kelly, "United States to North Korea: We Now Have a Pre-Condition," *YaleGlobal On-line*, 12 December 2002. This article draws on a presentation by Assistant Secretary Kelly to a symposium at the Woodrow Wilson International Center for Scholars, Washington, D.C., 11 December 2002. The Kelly visit will be addressed in greater detail later in this article.
10. Sanger, "North Korea Says It Has a Program on Nuclear Arms," *New York Times*, 17 October 2002. However, in a subsequent interview, Assistant Secretary Kelly characterized Kang's statement in different terms, with Kang (according to Kelly) stating that the Agreed Framework "had been nullified by [U.S.] actions." *PBS NewsHour* interview, 5 November 2002.
11. For relevant details, see the report on these facilities in *Yomiuri Weekly* (Tokyo), 1 December 2002, pp. 14–16.
12. On North Korean missile development and exports, consult Ko Yon-chol, "Mechanism of North Korean Missile Development," *Gunji Kenkyu* (Tokyo), February 2003, pp. 190–201.
13. For a powerful account, see Andrew S. Natsios, *The Great North Korean Famine: Famine, Politics, and Foreign Policy* (Washington, D.C.: U.S. Institute of Peace Press, 2001).
14. For an enlightening account drawing on extensive access to North Korean officials, albeit a study diminished by uncritical acceptance of Pyongyang's views of the negotiating record, see Selig S. Harrison, *Korean Endgame: A Strategy for Reunification and U.S. Disengagement* (Princeton, N.J.: Princeton Univ. Press, 2002).
15. For several sharply contrasting assessments of North Korean negotiating strategy, see Leon V. Sigal, *Disarming Strangers: Nuclear Diplomacy with North Korea* (Princeton, N.J.: Princeton Univ. Press, 1998); Chuck Downs, *Over the Line: North Korea's Negotiating Strategy* (Washington, D.C.: American Enterprise Institute Press, 1999); and Scott Snyder, *Negotiating on the Edge: North Korean Negotiating Behavior* (Washington, D.C.: U.S. Institute of Peace Press, 1999).
16. This analysis draws extensively on "Chronology of U.S.–North Korean Nuclear and Missile Diplomacy (December 1985–October 2002)," *Arms Control Today* (November 2002), pp. 32–37.
17. For relevant background, consult Larry A. Niksch, *North Korea's Nuclear Weapons Program* (Washington, D.C.: Congressional Research Service Issue Brief, Library of Congress, 8 November 2002), esp. pp. 9–14.
18. For a detailed chronology, see International Atomic Energy Agency [hereafter IAEA], "Fact Sheet on DPRK Nuclear Safeguards" (Vienna: WWW-Text, 16 December 2002).
19. North Korea's repeated claims to "special status" under the NPT date from its June 1993 "suspension" of its intention to withdraw from the treaty announced the previous March; this issue was to recur at the time of the renewed nuclear crisis in late 2002.
20. The references throughout this article to the reactor's five-megawatt capacity pertain to its electrical potential, not its thermal capability.
21. For an account of U.S. policy deliberations by two senior DoD officials at the time, see Ashton B. Carter and William J. Perry, "Back to the Brink," *Washington Post*, Outlook section, 20 October 2002.
22. Kim Il Sung died abruptly in July 1994, only weeks after meeting with former president Carter. After a period of national mourning, Kim Jong Il succeeded his father in power,



though he lacked comparable stature and authority.

23. Agreed Framework between the Democratic People's Republic of Korea and the United States of America, Geneva, 21 October 1994. The signers of the document were First Vice Minister of Foreign Affairs Kang Sok Ju (Assistant Secretary of State Kelly's principal interlocutor in Pyongyang in October 2002 as well as a visitor to the White House in October 2000) and U.S. Ambassador at Large Robert Gallucci.
24. CIA estimate to the U.S. Congress on North Korea's nuclear weapons potential (fn. 3 above).
25. There are a range of estimates about the fissile material requirements for a plutonium weapon. According to declassified data from the U.S. Department of Energy, "about 6 kilograms of plutonium is enough hypothetically to make one nuclear explosive device." But DOE also asserts that "hypothetically, a mass of 4 kilograms of plutonium or uranium-233 is sufficient for one nuclear explosive device." U.S. Dept. of Energy, *Restricted Data Declassification Decisions 1946 to the Present*, RDD-7 (Washington, D.C.: Office of Declassification, 1 January 2001), p. 31. The document is available at *Federation of American Scientists*, [www.fas.org/sgp/othergov/doe/rdd-7.html](http://www.fas.org/sgp/othergov/doe/rdd-7.html). The DOE data are hypothetical estimates of fissile material requirements based on weapons physics, not a specific judgment on the characteristics of a particular weapon design. I employ a six-kilogram estimate in this article. For a very helpful discussion, consult David Albright, *North Korea's Current and Future Plutonium and Nuclear Weapons Stocks* (Washington, D.C.: Institute for Science and International Security [ISIS] Issue Brief, 15 January 2003).
26. According to Peter Hayes, a leading authority on North Korean energy economics, the U.S. heavy fuel oil (HFO) deliveries provided approximately 8 percent of the DPRK's electrical supply in 2000, and approximately one-third of the fuel for the North's thermal power plants, which furnished half of the North's total generating capacity. However, Hayes further notes that "the DPRK has always viewed . . . HFO delivery [as] a political litmus test of American intent with regard [to] realizing [North Korea's] strategic goals from their nuclear fuel cycle strategy . . . and not a fuel supply issue." Hayes, "KEDO Fuel Oil and the DPRK: A Special Report," *North-east Asia Peace and Security Network, Special Report*, 15 November 2002.
27. President Clinton's 20 October 1994 letter to Kim Jong Il is reprinted in James M. Minnich, *The Denuclearization of North Korea* (Bloomington, Ind.: First Books Library, 2002), p. 106.
28. For a detailed and careful analysis, see Lee Chol-gi, "The North Korea-U.S. Geneva Agreement: Implications and Violations," *Vantage Point* (Seoul), December 2002, pp. 45-54. On the Agreed Framework timelines and results, consult Ralph A. Cossa, *The U.S.-DPRK Agreed Framework: Is It Still Viable? Is It Enough?* (Honolulu: Pacific Forum CSIS, April 1999), especially pp. 9-13 and Appendix F. Operational definitions of relevant criteria and milestones are specified in annexes 3 and 4 of the KEDO-DPRK Reactor Supply Agreement of 15 December 1995, as reprinted in Minnich, *The Denuclearization of North Korea*, pp. 123-25.
29. For a critique prepared principally by individuals who would subsequently assume senior positions in the Bush administration, see Richard L. Armitage, *A Comprehensive Approach to North Korea*, Strategic Forum 159 (Washington, D.C.: National Defense Univ., Institute for National Strategic Studies, March 1999). The essential argument in the Armitage report was that the Agreed Framework was not so much flawed as incomplete and thus unlikely to provide an enduring solution to the North's nuclear and missile activities.
30. For a useful compendium of North Korean statements, see "North Korea's Stance Regarding the Agreed Framework," *Vantage Point* (Seoul), November 2002, pp. 13-15.
31. In February 2003, President Kim Dae-jung publicly acknowledged for the first time that South Korean intelligence in 2000 had funneled (through a Hyundai subsidiary) substantial cash payments to the North in exchange for Kim's invitation to visit Pyongyang. Estimates of these payments range as high as five hundred million dollars. Kim's admission confirmed reports that had circulated for some months within the ROK and had become matters of growing political

- controversy. Howard W. French, "South Korea Chief Says North Received Cash in Bid for Peace," *New York Times*, 14 February 2003.
32. All citations are drawn from *Report of United States Policy toward North Korea: Findings and Recommendations*, Unclassified Report by Dr. William J. Perry, U.S. North Korea Policy Coordinator and Special Advisor to the President and the Secretary of State (Washington, D.C.: 12 October 1999).
33. U.S.-DPRK joint communiqué, 12 October 2000.
34. For an insightful account drawing on access to interviews with officials involved in Clinton administration policy on which this paragraph draws, consult Elise M. Vander Vennett [Lt. Col., USAF], "Averting a Rush to Failure: The Interagency Process and United States-North Korea Policy" (Washington, D.C.: National Defense Univ. and National War College, n.d.)
35. Harrison, *Korean Endgame*, p. 228. Secretary Albright purportedly conveyed this information in several small group discussions attended by Harrison. In announcing his decision not to travel to Pyongyang, President Clinton stated that during the Albright visit "Chairman Kim put forward a serious proposal concerning his missile program. Since then, we have discussed with North Korea proposals to eliminate its missile export program as well as halt further missile development." White House, Office of the Press Secretary, Washington, D.C., 28 December 2000.
36. Both MFA quotes are cited in "North Korea's Stance Regarding the Agreed Framework" (fn. 30), pp. 14-15.
37. This characterization was offered by State Department spokesman Richard Boucher in his briefing on the Powell-Lee meeting, 7 February 2001.
38. According to Woodward, President Bush stated: "I loathe Kim Jong Il. I've got a visceral reaction to this guy because he is starving his people. They tell me, we don't need to move too fast [against Kim] because the financial burdens on people will be so immense if we try to—if this guy were to topple. I just don't buy that. Either you believe in freedom, and . . . worry about the human condition, or you don't. . . . [T]here is a value system that cannot be compromised." Bob Woodward, *Bush at War* (New York: Simon and Schuster, 2002), p. 340.
39. Jane Perlez, "Fatherly Advice to the President on North Korea," *New York Times*, 10 June 2001.
40. Jane Perlez, "U.S. Will Restart Wide Negotiations with North Korea," *New York Times*, 7 June 2001. For the fullest statement of administration policy (from which the above citations are drawn), see Charles L. Pritchard, "U.S. Policy toward the Democratic People's Republic of Korea," testimony of the special envoy for negotiations with the DPRK and U.S. representative to KEDO before the Subcommittee on East Asia and the Pacific, House Committee on International Relations, 26 July 2001.
41. Michael Gordon, "U.S. Toughens Terms for Talks with North Korea," *New York Times*, 3 July 2001; Jane Perlez, "Powell Says U.S. Wants to Resume Talks with North Korea," *New York Times*, 28 July 2001.
42. Findings of the Nuclear Posture Review (Washington, D.C.: Dept. of Defense, 9 January 2002); on the subsequent NPR disclosures, see William M. Arkin, "Secret Plan Outlines the Unthinkable," *Los Angeles Times*, 10 March 2002. For relevant discussion of North Korea in the national security strategy document, including the attention to preemption and to counterproliferation, see *The National Security Strategy of the United States of America* (Washington, D.C.: White House, 17 September 2002), pp. 13-16.
43. *National Strategy to Combat Weapons of Mass Destruction* (Washington, D.C.: White House, December 2002), p. 3.
44. See Secretary of State Powell's testimony to the Senate Foreign Relations Committee, 5 February 2002.
45. The statement is cited in "North Korea's Stance Regarding the Agreed Framework" (fn. 30 above), p. 15.
46. For a superb analysis of the full spectrum of these issues, consult Richard L. Garwin and Georges Charpak, *Megawatts and Megatons: A Turning Point in the Nuclear Age?* (New York: Knopf, 2001), esp. chaps. 2, 3, 5, and 12.
47. See, for example, the exchange between Peter Hayes of the Nautilus Institute for Security and Sustainable Development and Kim

- Myong Chol, executive director of the Center for Korean-American Peace in Tokyo and an unofficial spokesman for the DPRK, in *Nautilus Institute Northeast Asia Peace and Security Network, Special Report*, 25 October 2002.
48. KEDO-DPRK Reactor Supply Agreement, Articles VI and VIII, in Minnich, *The Denuclearization of North Korea*, pp. 112–13.
  49. According to a report by a close observer of the global nuclear industry, “the DPRK has [recently] let it be known that it was keenly interested in the front end of the [nuclear] fuel cycle and uranium processing, claiming to some Western officials in the country that [its] interest was prompted by a desire to supply fuel for the two [LWRs] being constructed under the Agreed Framework.” Mark Hibbs, “DPRK Enrichment Not Far Along, Some Intelligence Data Suggest,” *Nucleonics Week*, 24 October 2002, p. 1.
  50. Unclassified CIA Estimate to the U.S. Congress, 19 November 2002 (fn. 3 above).
  51. I am much indebted to Richard Garwin for his very valuable insights into these issues.
  52. Robert F. Mozley, *The Politics and Technology of Nuclear Proliferation* (Seattle: University of Washington Press, 1998), pp. 79–81.
  53. My thanks to Matthew Bunn for his judgments. For the lower SWU estimate, see Mark Hibbs, “CIA Assessment on DPRK Presumes Massive Outside Help on Centrifuges,” *Nucleonics Week*, 25 November 2002, p. 1.
  54. Joseph S. Bermudez, Jr., “Exposing North Korea’s Secret Nuclear Infrastructure,” *Jane’s Intelligence Review*, August 1999, p. 45.
  55. As reported by Yonhap, the ROK semiofficial news agency, 21 October 2002. See also *Sankei Shimbun* (Tokyo), 9 June 2000; and *Sindong-a* (Seoul), 1 August 2001, pp. 196–204. The latter two reports document the existence of a major undeclared facility for nuclear materials production inside Mount Chonma, thirty kilometers from the Kumch’ang-ri site inspected by U.S. officials in 1999 and 2000.
  56. For a detailed and revealing reconstruction of the Pakistan–North Korea nuclear and missile relationship, see Gaurav Kampani, “Second Tier Proliferation: The Case of Pakistan and North Korea,” *Nonproliferation Review*, Fall–Winter 2002, pp. 107–16. For additional background, see Seymour M. Hersh, “The Cold Test,” *The New Yorker*, 27 January 2003, pp. 42–47; and Walter Pincus, “North Korea’s Nuclear Plans Were No Secret,” *Washington Post*, 1 February 2003.
  57. Secretary Powell is quoted in Pincus, “North Korea’s Nuclear Plans Were No Secret.”
  58. For an insightful analysis of Japanese policy calculations related to the Pyongyang visit, see Gilbert Rozman, “Japan’s Relations with the U.S. and Its North Korean Option,” *Foreign Policy Research Institute E-Notes*, 3 December 2002.
  59. For relevant details on which this account draws, see “Chronicle: Prime Minister Koizumi’s Surprise Visit to North Korea,” *Kyodo Clue II* (Tokyo), Internet version, 30 August 2002. See also Takao Toshikawa, “Senior Government Officials Say Kim Jong Il ‘Denounced the United States’ in the Summit Talks,” *Gendai* (Tokyo), November 2002, pp. 48–51.
  60. Doug Struck and Glenn Kessler, “Hints on North Korea Surfaced in 2000,” *Washington Post*, 19 October 2002.
  61. One Japanese newspaper account asserts that “the U.S. was taken aback when it learned that Japan had agreed to hold a summit meeting with North Korea. The U.S. expressed misgivings, turned over materials to Prime Minister Koizumi which proved that Pyongyang was pursuing a uranium enrichment program, and urged Japan to postpone the meeting.” “Kim Jong Il’s Miscalculation,” *Mainichi Daily News* (Tokyo), Internet version, 31 December 2002.
  62. As reported in *Asahi Shimbun* (Tokyo), 18 September 2002.
  63. Howard W. French, “North Koreans Sign Agreement with Japanese,” *New York Times*, 18 September 2002.
  64. As cited by Toshikawa (fn. 59 above).
  65. David E. Sanger, “In Policy Shift, U.S. Will Talk to North Korea,” *New York Times*, 26 September 2002.
  66. Kelly, “United States to North Korea,” fn. 9 above, pp. 2–3.
  67. *Ibid.*, p. 3.

68. Mike Allen and Karen DeYoung, "North Korea Issue Irks Congress," *Washington Post*, 19 October 2002.
69. Don Oberdorfer, "My Private Seat at Pyongyang's Table," *Washington Post*, Opinion section, 10 November 2002. As noted previously, in a television interview Assistant Secretary Kelly lent credibility to this North Korean claim, noting that Kang Sok Ju stated that "the Agreed Framework had . . . been nullified by [U.S.] actions." *PBS NewsHour* interview, 5 November 2002.
70. Statement of the spokesman of the DPRK Foreign Ministry on the nuclear issue on the Korean Peninsula, 25 October 2002. Ambassador Donald Gregg (who led the small delegation of which Don Oberdorfer was also a member) confirmed to me that his North Korean interlocutors deemed this statement the authoritative representation of DPRK policy. However, other North Korean statements contradict the 25 October statement, with some officials denying that Pyongyang acknowledged either enrichment activities or an active nuclear weapons program. "DPRK Foreign Ministry Director [O Song-ch'ol] Says DPRK 'Did Not Acknowledge' Nuclear Program," *Choson Sinbo* (Tokyo), Internet Version in Korean, 23 January 2003.
71. The reference to "any type of weapon more powerful than [nuclear weapons]" sounds especially ominous, and has been widely construed as an allusion to biological weapons or other WMD capabilities. However, such allusions are a staple in North Korean political vocabulary, and appear to refer to the boundless power attributed to DPRK political ideology and leadership doctrines. As observed by Deputy Secretary of State Richard Armitage: "We [first] didn't understand what these weapons might be. . . . We have subsequently learned from foreign envoys who have gone to Pyongyang and talked to the North Koreans . . . that they're referring to . . . the soul and special affection of the Korean people for the army-first policy, united behind the direction of Kim Jong Il." Armitage, Testimony before the Senate Foreign Relations Committee, 4 February 2003.
72. Peter Slevin and Glenn Kessler, "Bush Emphasizes Diplomacy Toward North Korea," *Washington Post*, 18 October 2002.
73. President Bush first declared that the United States "ha[d] no intention to invade the North" during his February 2002 visit to the ROK. Numerous statements from the White House have reiterated this pledge, and other administration spokesmen have asserted either that the United States "had no intention to attack" or "no intention to invade or attack." It is not clear whether these variations represented efforts to differentiate U.S. policy. In light of subsequent U.S. statements that "all options" remained on the table, the administration did not view its earlier statements as foreclosing the use of force under certain circumstances. For various versions, see Glenn Kessler, "U.S. Takes North Korea's Nuclear Plan in Stride," *Washington Post*, 13 December 2002; David E. Sanger, "Bush Welcomes Slower Approach to North Korea," *New York Times*, 7 January 2003; "U.S. 'Willing to Talk' to North Korea," briefing remarks by State Department spokesman Richard Boucher, 7 January 2003; Secretary of State Colin Powell, testimony delivered to the Senate Foreign Relations Committee, 6 February 2003; and Mark Matthews and David L. Greene, "Bush Says Force Now an Option on North Korea," *Baltimore Sun*, 4 March 2003.
74. Elisabeth Bumiller, "Bush Sees Korean Nuclear Effort as Different from Iraq's," *New York Times*, 22 October 2002; David E. Sanger, "Bush Contends That North Korea Is No Iraq," *New York Times*, 1 January 2003.
75. This contention was put forward most explicitly by Secretary of State Powell. David E. Sanger, "U.S. Eases Threat on Nuclear Arms for North Korea," *New York Times*, 30 December 2002.
76. However, Assistant Secretary of State Kelly's March 2003 testimony to the Senate Foreign Relations Committee (fn 6, above) directly contradicts this judgment.
77. David E. Sanger, "U.S. to Withdraw from Arms Accord with North Korea," *New York Times*, 20 October 2002.
78. Karen DeYoung, "U.S. Might Try to Salvage Part of North Korean Accord," *Washington Post*, 25 October 2002.
79. Mike Allen and Karen DeYoung, "Bush Seeks China's Aid to Oppose North Korea; Jiang's

Statement Not as Forceful as U.S. Hoped,” *Washington Post*, 26 October 2002.

80. Don Kirk, “Korea Leader Backs Plan to Block Oil to the North,” *New York Times*, 16 November 2002.
81. Howard W. French, “North Korea Says It Will Bar Atom Inspectors,” *New York Times*, 23 November 2002.
82. Korean Central Television (Pyongyang), 4 December 2002.
83. Korea Central News Agency [hereafter KCNA], Pyongyang, 12 December 2002.
84. KCNA, 29 December 2002.
85. Korean Central Broadcasting Station (Pyongyang), 10 January 2003.
86. Carla Ann Robbins and David S. Cloud, “Powell Sees Flaws in 1994 Pact with North

Korea,” *Wall Street Journal*, 14 January 2003; Howard W. French, “Aides Declare U.S. ‘Willing to Talk’ in Korea Dispute,” *New York Times*, 14 January 2003; David E. Sanger, “Bush Says Shift by North Korea Could Bring Aid,” *New York Times*, 15 January 2003.

87. This evocative phrase was used by Kang Sok Ju during his January 2003 discussions with visiting Russian vice foreign minister Alexander Losyukov, as reported in *Chungang Ilbo* (Seoul), 21 January 2003.
88. David E. Sanger, “U.S. Sees Quick Start of North Korea Nuclear Site,” *New York Times*, 1 March 2003.
89. Testimony of James A. Kelly, “Regional Implications of the Changing Nuclear Equation on the Korean Peninsula,” (fn 6), p. 26.







# CHINA'S MANNED SPACE PROGRAM

## Sun Tzu or Apollo Redux?

Joan Johnson-Freese

*Nothing is more difficult than the art of maneuver. What is difficult about maneuver is to make the devious route the most direct and to turn misfortune to advantage.*

SUN TZU

China is on a fast track into space. Chinese officials have stated that a manned space launch is imminent—likely in the second half of 2003. The four launches since 1999 of the Shenzhou (Divine or Sacred Vessel) spacecraft intended to launch the *taikonauts* into orbit evidence substantial Chinese technical achievement and the seriousness of the program.<sup>1</sup> Those achievements, plus

pronouncements about timetables, space laboratories, shuttles, space stations, lunar bases, and now Mars missions, naturally make one wonder just what the Chinese are up to. Is there a new, twenty-first-century space race brewing? If there is, who is racing, and toward what goal? Analysis and commentary have spawned several, often one-dimensional, scenarios.

Policy and academic analyses of Chinese space activities have been limited and “stovepiped” within disciplines. With few exceptions, analyses have either focused on technical parameters or have been highly politicized as part of threat assessments, usually in the context of U.S. plans for missile defense.<sup>2</sup> In the case of the former, though much of the Chinese program remains cloaked in secrecy due to both the nature of the Chinese system and the military aspects of the topic, considerable agreement exists among technical analysts concerning Chinese capabilities, now and

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*The views expressed in this article are the author's alone and do not represent the official position of the Department of the Navy, the Department of Defense, or the U.S. government.*

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potentially in the future.<sup>3</sup> Securing consensus regarding political “intent” remains more difficult. There are analysts who feel that the pursuit of space technology can be benign and development oriented; others perceive it as inherently nefarious. That China is so large and complex that one can look there for proof of any thesis, and find it, complicates the situation.

Some observers see China’s race to space as a battle with its own demons. Prestige, in this scenario, becomes the Chinese brass ring. Conquering space represents an opportunity in what China refers to as mankind’s “fourth frontier” to recapture its lost legacy of technological mastery and innovation.<sup>4</sup> Certainly, a Chinese quest for prestige is undeniable. Chinese scientists and policy makers eagerly point out that when (not if) China launches *taikonauts* into space, it will be only the third country in the world to have done so. No European countries can do that, or Japan either; manned space flight will belong to an exclusive club of the United States, Russia, and China. The world was dramatically and tragically reminded of the technical difficulty of piloted spaceflight, and subsequently the high level of technical achievement requisite to accomplish such, with the recent loss of the space shuttle *Columbia*. So, the prospective domestic, regional, and international benefits of that exclusivity are considerable. But are they enough for a country that daily faces Herculean challenges in keeping its population fed, employed, and stable and pursuing essential domestic modernization, while it spends an estimated two billion dollars annually on a space program?<sup>5</sup>

If not, the reason the Chinese are pursuing a manned space program may be to draw attention from its military space activities, which will clearly benefit from the dual-use nature of the technology being developed. The July 2002 *Annual Report on the Military Power of the People’s Republic of China*, published by the U.S. Department of Defense, stated, “While one of the strongest immediate motivations for this [China’s manned space program] appears to be political prestige, China’s manned space efforts almost certainly will contribute to improved military space systems in the 2010–2020 time frame.”<sup>6</sup> Global recognition of the increasingly important role of space in military operations began with the unofficial proclamation of the Gulf War as “the first space war,” and it has grown steadily since.<sup>7</sup> Under a worst-case scenario, the Chinese manned efforts are merely a Trojan horse. It has already been suggested, for example, that Chinese leaders may see potential military value in Shenzhou as a reconnaissance platform.<sup>8</sup> Chinese government officials have, after all, included national defense in the stated aims of their space program.<sup>9</sup>

Both history and a logical policy analysis, however, reject the notion that Chinese reasoning must be viewed as an either-or situation. Far more likely, Chinese motivations for eagerly, even aggressively, pursuing a space program, including

manned space, are multifaceted. Unless the Chinese suffer a technical disaster—which they have been working to avoid, and will post-*Columbia* even more ardently—space yields high returns on investment in multiple policy areas. Indeed, in the United States space has always been a subfield of other areas—foreign, national security, economic, and science policy being the most prominent. Examining the Chinese space program under the same premises allows for a better understanding of what the Chinese are doing and why. Extrapolating the current environment into the future makes apparent the context for a potential coming space race, as well as why it is likely the United States and China will be the primary—though not the only—competitors.

### KNOW THE ENEMY AND KNOW YOURSELF . . .

Popular history tells us that the Apollo program exemplified the “can do” attitude and visionary approach of the John F. Kennedy administration.<sup>10</sup> If only, some space-exploration advocates still wistfully muse, another American president possessed such imagination and vision, the glory days of vigorous NASA space activity would return. Those reflections are both about half-right. Popular history’s view of Apollo rightly glorifies the can-do spirit but greatly embellishes the vision aspect. Having observed the dramatic and unanticipated U.S. public sense in reaction to the Soviet launch of Sputnik during the Eisenhower administration that the United States was technically inferior to, and hence potentially weaker than, the Soviet Union—and how that impression spread worldwide—the Kennedy administration recognized the symbolic power and allure of space accomplishments.<sup>11</sup> Additionally, the United States already had an active military space program under way; it was patent that the technology requisite for civilian space activities would benefit the military side, and the American economy as well. If the technical risks could be managed, the benefits were potentially enormous. Space became, on one level, a Cold War battlefield, where scientists and engineers were the frontline soldiers, fighting for the prestige and global influence that would flow from technical prowess, prowess also beneficial to the military. On another level, the knowledge and hardware created would bring domestic benefits beyond the symbolic and military arenas.

Several parallels can be drawn between U.S. decision making in support of Apollo in the 1960s and that going on in China today with respect to the manned space program. Domestic, regional, and international prestige are clearly factors in Chinese decision making. Domestically, a positive “public-rallying” factor complements national pride. Images of the Shenzhou basically make people feel good about themselves and their country; they are found on consumer goods from phone cards to water heaters. Also, domestic pride and international prestige also yield increased governmental legitimacy, a strong consideration in

Beijing. Internationally, especially to the extent that prestige implies influence, in the sense that it once did for the United States, regional politics, vying for the “top spot,” comes into play. Few areas of exclusive technical achievement remain; many countries (most pertinently for Chinese regional considerations, Japan and India) have satellites, launch facilities, etc. (though with a wide range of quality, size, and capabilities); however, there are still only two countries in the world with manned space programs. Hence, for purposes of prestige, accepting the exponentially higher costs associated with manned versus unmanned launches becomes obligatory.

Economically, the benefits for the United States of the space race generally and the Apollo program specifically were far reaching, both direct and indirect. Education and on-the-job experience for the Apollo scientists and engineers created a generation of highly trained technical personnel. Engineering pro-

grams were specifically set up in colleges and universities to meet the need for new and specialized aerospace skills. In China, the University of Science and Tech-

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*China's plans are for a phased, incremental, cautious—though ambitious—program.*

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nology of China, Beijing University of Aeronautics and Astronautics, and Beijing Institute of Technology are all among the top universities, and all eagerly discuss and promote their involvement in the space program. Student interest in space is said to have exploded in China. If the Chinese experience parallels anything close to what has happened in Japan already, universities and industries must be using even remote possibilities of being involved in space ventures to lure the best and the brightest into their programs.

Another economic payoff is to be seen in the movie *Apollo 13*. Tom Hanks's character shows a congressional delegation through the Vehicle Assembly Building at the Kennedy Space Center (KSC). These tours were once a regular NASA function. Escorts pointed out what parts of the program were produced in each state of the union and how the approximately twenty-five billion dollars spent on Apollo was being spread across the country—information politically necessary to keep the funds flowing. Government money spent was expected not only to get a man to the moon but to employ a great many people in the process.<sup>12</sup> In China today, programs that bolster technical education and create technical jobs are of considerable interest; the lessons of Apollo have not been lost on the Chinese leadership.

Conversely, China is also aware that space programs can be viewed, as was the case during Apollo, as desirable but expendable in favor of more pragmatic, near-term needs. Many U.S. scientists objected to Apollo as draining funds from too many other programs, and politicians had other priorities. Some groups in

China have quietly but deliberately let it be known that they see space programs as a waste of money. This new phenomenon—Chinese public opinion actually mattering to the government—demands returns on investment heretofore unnecessary.

While the United States blazed through the heavens up the steepest of learning curves, other countries recognized that a technology gap was developing, one potentially detrimental to their future.<sup>13</sup> In the late 1960s and into the 1970s, European nations aggressively pursued space activity, separately and then collectively, for economic reasons. It was deemed that space engendered technology, technology led to industrialization, and industrialization fostered economic growth. In Canada, public and political pressure for space activity that would prevent being on the wrong side of the technology gap produced a program designed to focus on one technology at a time, carefully selected to benefit the Canadian people directly. Communications satellites, linking Canada's vast geographic expanse, were the first focus. Robotics (notably the Canadarm), with potential industrial and hence economic benefits on Earth, were the second. China is keenly aware of these established relationships between space, technology, economics, and domestic politics.

Finally, there is the military consideration. According to the Stockholm International Peace Research Institute, "No country can currently rival or contest U.S. space dominance or the advantages that this provides to its terrestrial military operations."<sup>14</sup> *Wired* magazine put it differently in April 2002: "The Pentagon's role in world affairs has gone through an epochal transformation: from the Fulda Gap to the Highway of Death, from Agent Orange to GPS [the Global Positioning System], from arsenal of democracy to global cop. When you are a cop, sometimes you kick doors in. Most of the time you stay on patrol. Outer space is where a global cop patrols. America's eyes, ears and nerves are up there, all day, every day, circling the blue yonder. Space vehicles are the ultimate asymmetrical asset. They cannot be reached with a hijacked jet. They laugh at anthrax."<sup>15</sup> The Chinese are well aware of U.S. space dominance. They have read the 2001 report of the Commission to Assess National Security Space Management and Operation (commonly known as the Space Commission Report), chaired by secretary of defense and space supporter Donald Rumsfeld.<sup>16</sup> That report surmised that since air, land, and sea all have become battlegrounds, it is inevitable that space will too; the United States, it went on, would be remiss not to prepare for that inevitability. The Chinese are fully able to read between the lines and see the implications for development of space weapons.

Identifying potential military gains from technology specifically developed for manned space activities is not, however, as straightforward as some have speculated. Using the Shenzhou as a reconnaissance platform, for example,

hardly seems to maximize capability while minimizing expenditures. In 1969, the U.S. military abandoned the Manned Orbital Laboratory program, intended to perform reconnaissance, in large part because unmanned satellites could provide the same—or better—capabilities.<sup>17</sup> If the Chinese are solely or even primarily seeking what amounts to a high-resolution, real-time reconnaissance satellite, a direct approach to building one makes more sense technically and fiscally.

Nonetheless, development of space hardware and know-how for the manned programs will certainly push the Chinese rapidly up the learning curve in everything from materials to computing power to systems engineering, as the Apollo program did for the United States. Their desire and perceived need to scale that curve is unambiguous. In January 2003, the Chinese launched their second Zi Yuan (ZY-2) photoreconnaissance satellite, capable of resolution in the range of ten to twenty centimeters. It is a military version of a satellite jointly developed by China and Brazil for remote sensing (the ZY-1, or China Brazil Earth Resource Satellite, CBERS)—evidence of how development of a civil program can have clear military benefit.

The robustness and activism of U.S. military space efforts under the George W. Bush administration—especially in contrast to the generally disapproving attitude of its predecessor—must also be considered in the context of U.S.-China relations more generally. Until “9/11,” when many international relationships got turned on their heads and several strange bedfellows emerged, some analysts felt that justly or unjustly, China had been deemed the next enemy of the United States. China-U.S. relations have been strained in this realm, commencing with the 1998 Commission to Assess the Ballistic Missile Threat to the United States (again led by Rumsfeld); they were exacerbated by the 1998 Cox Commission Report accusing U.S. aerospace companies of giving China technical assistance in its military space program through commercial satellite launches, and aggravated by the EP-3 incident in 2001; and they must always be considered in the context of both American military support to Taiwan and U.S. missile defense plans, which the Chinese perceive as severely impacting their own nuclear deterrence.<sup>18</sup>

Indeed, during this time a loose alliance of members of Congress, congressional staff, think-tank fellows, conservative journalists, lobbyists for Taiwan, former intelligence officers, and a handful of academics proudly proclaimed themselves the “Blue Team,” united in their view that a rising China posed great risks to America’s vital interests. They were determined and effective in encouraging a hard-line U.S. government stance on anything Chinese.<sup>19</sup> Their success was interpreted in China as signaling mainline acceptance of those views; that has provided in turn an opportunity for backlash from Chinese hard-liners



(potentially triggering a dangerous action-reaction cycle). Therefore, any activity that might increase Chinese capabilities in an area of clear and expanding U.S. dominance—like space—would easily garner support in Beijing.

Taken together, the political, economic, and military benefits to the Chinese in pursuing space activity, including manned space, validate their course of action as a rational policy decision. Although certainly there is no full-blown cold war, there are considerable parallels to the Apollo-era U.S. rationales in terms of domestic benefits, surrogate struggles for regional influence, and global political and military posturing. Indeed China itself is clear that it is pursuing space activity not just as an end in itself but as part of a larger strategy.

### INVINCIBILITY DEPENDS ON ONE'S SELF . . .

In November 2000, the Information Office of the State Council issued the first Chinese white paper on space, *China's Space Activities*.<sup>20</sup> The technical milestones laid down were impressive, and the language was insightful. It reminded readers that China had invented gunpowder, the “embryo of modern space rockets.” Space, then, is a field China sees itself as having initiated and once dominated, but was then overtaken in. It now wants to regain a place of distinction.

Included in the development targets provided in the white paper were earth-observation systems, independently operated satellite broadcasting and telecommunications systems, an independent satellite navigation and positioning system, upgraded launch vehicles as necessary for manned space flight, a coordinated national satellite remote-sensing application system, space science, space exploration, and industrialization and marketing of space technology and applications. Equally important, the paper also declared that these goals would be achieved through adherence to

the principle of long-term, stable and sustainable development and making the development of space activities . . . serve the state's comprehensive development strategy. The Chinese government attaches great importance to the significant role of space activities in implementing the strategy of revitalizing the country with science and education and that of sustainable development, as well as in economic construction, national security, science and technology development and social progress. The development of space activities is encouraged and supported by the government as an integral part of the state's comprehensive development strategy.

In that context, the white paper promoted international space cooperation, placing priority on cooperation within the Asia-Pacific region and supporting Chinese participation in international launch services.

China recognizes that its current “catch-up” position is at least partly of its own making. Space scientists and engineers did not escape the wrath of the Cultural Revolution.<sup>21</sup> Facilities were destroyed, and individuals were starved and

sometimes beaten while being forced to continue work in austere, even unimaginable conditions. One early launch account, for example, describes rocket fuel being loaded by bicycle pump. China did have, however, well trained individuals in its space program. Many, including the program's leader, Qian Xuesen, were Western trained; Dr. Qian had a Ph.D. from Toronto University and had worked at the California Institute of Technology for more than twenty years.<sup>22</sup> Qian, along with approximately a hundred other Chinese scientists, was expelled from the United States in 1955 during the McCarthy era and now bears long-standing, and many say understandable, ill feelings toward the United States.

From those roots, China proceeded tumultuously but determinedly. The Chinese must be commended for development of what was, until very recently, a virtually indigenous space program. Between the updated German V-2 rocket (renamed R-2 and left behind by the Soviets when they broke relations with the Chinese in 1960), the initiation of commercial satellite launches in the mid-1980s, and collaboration with the Russians on aspects of the manned space program beginning in the late 1990s, the Chinese have worked primarily alone, though not entirely by choice. Mao Tse-tung scared off even Nikita Khrushchev with his casual attitude toward nuclear war; there followed the self-imposed isolation of the Cultural Revolution, and a relationship with the United States that was tenuous at best, especially after Tiananmen Square. The Chinese quickly made significant autonomous technical achievements, however, when left on their own. Within a decade of their first satellite launch in 1970, the Chinese could successfully recover large satellites from orbit. This is important today as a critical step in any manned program, since it requires the development of such technologies as heat shields, sophisticated tracking systems, and automated controls.

Nevertheless, the Chinese always maximized their ability to learn from others. That their Xichang launch site is at approximately twenty-eight degrees north latitude and KSC is at 28.5 degrees north is not coincidence. The Chinese picked a similar latitude to allow emulation of American post-launch trajectories, which were described in some detail in open-source U.S. literature. Even today, although the Shenzhou spacecraft bears similarities to the Russian Soyuz design, the Chinese avidly defend it as their own product, which technical comparisons seem to bear out.<sup>23</sup> They view having begun with the Soyuz design rather than reinventing the wheel as simply smart business practice.

In May 2002 China held a National Science Week. In one exhibition, a model showed China's vision of a permanent settlement on Mars. "From a long-term perspective, it is a historical necessity for man to travel into space," a poster proclaimed. A six-wheeled robotic detector was unveiled as potentially China's first lunar visitor. The exhibition's tone reflected China's acknowledgment that considerable self-interest was involved in its bid to become the third nation to put a

human in space. “The development and use of technologies for manned space flight have far-reaching significance for our nation in the political, military, economic and technological fields,” a poster said.<sup>24</sup>

The current manned space effort, known as Project 921, is China’s second. (Actually it is the third, if one counts Wan Hu, a sixteenth-century inventor who built a rocket-propelled chair. Upon testing, both the inventor and the chair met with unfortunate outcomes.) In the present program, fourteen *taikonauts* have been selected, and much like the first U.S. astronauts, they were drawn from the elite ranks of military fighter pilots. Two *taikonauts* trained in Russia, but most training is now conducted in a secret facility north of Beijing.<sup>25</sup> The Chinese are deliberately creating an aura of mystique and drama around the *taikonauts*. After the latest preliminary flight, the Chinese released rare footage of the men in training. The Shenzhou capsule is reportedly able to carry three or four *taikonauts*, though it is likely that the initial flight will carry only one. There has been speculation that Chen Long, a thirty-year-old fighter pilot, is to have the honor of being the first Chinese into space.<sup>26</sup>

The earlier manned program started in the 1970s and then stopped in 1980, due to lack of funds, technological barriers, and a pragmatic decision to put more emphasis on applications satellites. That project was run purely on a planned, central-economy basis, with a one-way money flow. This second round, which commenced in 1992, is being managed very differently.

The China Aerospace Science and Technology Corporation (CASC, or CASTC) was created in 1999 for the pursuit of national defense and aerospace endeavors; it spun off from the China Aerospace Corporation (CAC).<sup>27</sup> The change was part of an effort to become more competitive, in which the Chinese government reformed the top defense and technology corporations, like CAC, which was a large state-owned enterprise under direct supervision of the State Council. CAC, which had some 270,000 employees, was divided into the CASC and the China Aerospace Machinery and Electronics Corporation (recently renamed China Aerospace Science and Industry Corporation), presumably with about 150,000 employees. CASC, itself a large state-owned enterprise, has a registered capital of RMB\* nine billion yuan.<sup>28</sup>

Over 130 organizations are subordinate to CASC, including five large research academies—the Chinese Academy of Launch Vehicle Technology, the Chinese Academy of Space Technology, the Shanghai Academy of Space Flight Technology, the Chinese Academy of Space Electronic Technology, and the Academy of Space Chemical Propulsion Technology; two large research and manufacture bases, the Sichuan Space Industry Corporation and Xian Space Science and Technology Industry Corporation; as well as a number of factories,

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\* RMB = *Renminbi* (“people’s currency”).

research institutes under the direct supervision of the headquarters, and companies in which CASC has major or minor shares. CASC employs around 110,000 employees, of whom technical staff accounts for more than forty thousand, including over 1,300 researchers and twenty-one academicians from the Chinese Academy of Sciences and the Chinese Academy of Engineering.<sup>29</sup> CASC's general manager, Zhang Qingwei, urges the corporation's workers to strive to make it globally competitive in the next three years by transforming it into a modern enterprise system. CASC projects that total income and profit will double between 2001 and 2005, as it becomes a large enterprise group boasting renowned brands, its own intellectual property rights, and powerful core competitiveness.<sup>30</sup>

The tricky part of reorganization and management reform in China is that cutting jobs is usually necessary. Chinese launch site workers, for example, have remarked to the author that often three or four people are assigned to a task one person could handle, and likely could handle better alone. Yet, as previously stated, creating jobs remains an important Beijing priority. So China has had to be creative, balance interests, and move slowly in its reform efforts. The aerospace industry has become something of a test case.

CASC has general authority over manned spaceflight and the Long March-series rockets. Ultimately, however, the military (specifically the Second Artillery Corps) controls the Chinese space program. Although specific efforts have been made toward separating the military aspects from the civil/commercial aspects, China, like Russia, did not initially bifurcate its program as did the United States.<sup>31</sup> Having said that, however, it cannot be forgotten that the U.S. civilian program too grew from military roots. The Long March (Chang Zheng) launcher series, today marketed by the Great Wall Industry Corporation, bears a legacy not unlike those of the U.S. Delta, Atlas, and Titan commercial launchers.

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*Space, then, is a field China sees itself as having initiated and once dominated.*

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That is, it was originally designed in the early 1970s as an intercontinental ballistic missile (Dong Feng 4 and 5) rather than simply as a rocket, like the French Ariane, for example.<sup>32</sup> This ultimately unified effort in sensitive areas like propulsion research but gave rise to concern in the United States about technology transfer.

Among CASC's most important current achievements are the more than twenty consecutive successful test launches achieved since 1996. Although each of those successful launches is important independently, together they build a record of reliability important for restoring confidence among commercial launch-insurance companies. After a series of accidents in the 1990s and the subsequent Cox Commission report issued in the United States, the lucrative

Chinese launch market quickly dried up.<sup>33</sup> Other than thirteen satellites for the Iridium communication venture, commercial launches, which had generated hard currency for China, with considerably more likely expected, have been at a virtual standstill, and little likelihood of a dramatic turnaround is foreseen.<sup>34</sup> The Chinese probably hope that positive spillover from a successful manned launch, in terms of perceived technical capability, will benefit their commercial launch program. Nevertheless, problems will remain: Chinese launch costs are higher (between sixty and seventy million dollars per launch) than those of international competitors, and U.S. export laws for launching U.S.-built satellites in China are highly restrictive.

Besides launch vehicles, China has numerous satellite programs. Dong Fang Hong (DFH) communications satellites have gone through multiple iterations. DFH-1, also known as Mao 1, was launched in 1970. It is most famous for broadcasting from space the song "The East is Red." The latest DFH iteration is being cooperatively developed with Germany. The Fanhui Shi Weixing recoverable satellites were originally developed for photoreconnaissance but now are also used for remote sensing. The third application satellite is the Feng Yun (FY) series, used for meteorology and remote sensing. The Chinese have also launched a series of Shi Jian satellites, carrying science payloads. Two Bei Dou navigation satellites have also been launched. Between 2001 and 2006 the Chinese have said they intend to launch thirty satellites as part of an expanding program culminating with human spaceflight.

Announcements as early as 1996 gave 1999 as the year for the first manned launch, to commemorate the fiftieth anniversary of the founding of the communist state. Depressed finances (perhaps in part due to the loss of anticipated income from commercial satellite launches) and technical issues, however, made it impossible to keep to the original timetable. There simply was not enough time for unmanned proving missions to ensure that the first manned attempt would not meet with disaster. The first Shenzhou flight occurred in November 1999. Shenzhou I completed fourteen orbits and returned to earth after just twenty-one hours, but even so it achieved a big step forward for the Chinese.

The second flight was in January 2001; it was both more complex and more mysterious. Numerous maneuvers were conducted before the descent module returned to earth seven days and 108 orbits later.<sup>35</sup> The Chinese ability to maneuver the Shenzhou II independent orbital module surprised Western observers. International press reports varied, with some stating that the flight carried cell and tissue samples of eighty-seven animals, plants, and microorganisms, while others stated that animals (rats) were on board. Clearly, life support systems were being tested at some level. The Chinese were ambiguous as to exactly how, and China's state-run Xinhua Agency made no reference to animals in its

reports. Dr. Liu Yongding, life sciences payload manager for the mission, refused to comment when specifically asked if a monkey, dog, rabbit, or snails were among the live specimens on board.<sup>36</sup> Guidance and reentry technology was also tested. No pictures of the returned capsule were released; indeed, there was a virtual press blackout, leading to Western speculation that there had been landing problems, likely either with the parachutes or the retro-rockets. The Chinese denied such allegations.

Shenzhou III was launched on 24 March 2002 and returned to the remote grasslands of Inner Mongolia on 1 April 2002.<sup>37</sup> In each of the three seats dummy humans were wired to medical monitors to test life-support systems, most of which had been purchased from the Russians.

The forward part of the Shenzhou spacecraft is an orbital module, used for experiments and as a crew transfer module for future space missions (which could include docking with another Shenzhou vehicle to form an interim “space

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*“Space vehicles are the ultimate asymmetrical asset. They cannot be reached with a hijacked jet. They laugh at anthrax.”*

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laboratory,” a project Beijing has talked about). The spacecraft has an aft propulsion system; between the two is a manned capsule. Shenzhou III left the forward

module in orbit, likely for future docking tests. It also appears to be carrying a relatively sophisticated remote-sensing payload (a medium-resolution imaging spectroradiometer known as MRIS), transmitting high-quality data to Chinese ground stations. The infrared technologies being validated by the instrument potentially have both civil and military applications (that is, for military satellites), again illustrating the inherently “gray” nature of most space technologies and hence the difficulty of discerning the “intent” behind any space program.

On several occasions after the third flight and during preparation for the fourth, Chinese officials categorically stated that “no animal has ever been on board one of China’s unmanned space flights.”<sup>38</sup> Indeed one official declared, “If we sent a monkey up, it would surely make trouble, skipping and fumbling about if it got loose.”<sup>39</sup> This kind of ambiguity, followed by contradiction and confusion on specifics, is not atypical for the Chinese program.

Shenzhou IV was launched on 30 December 2002 and landed just over a week later, on 6 January 2003, again after 108 orbits. State newspapers and media heralded stories of the spacecraft after its successful landing. Testing maneuverability and life-support systems had been the mission’s priority.

China’s plans are for a phased, incremental, cautious—though ambitious—program. Future launch vehicle designs provide for increasing lift capabilities, using a concept similar to the U.S. Evolved Expendable Launch Vehicle. A “family” of vehicles is to be created, based on one design but with a range of



capabilities. Further, China continues development of liquid oxygen/kerosene engines to replace the nitrogen/UDMH engines currently used on the Long March.<sup>40</sup> The lift capabilities planned and being developed for the next century are of such a magnitude that they are obviously intended to support such missions as a manned lunar program, potentially a Mars program as well. It should be noted, though, that these powerful launchers also expand Chinese capabilities to launch heavier military satellites.

There is really no need for the Chinese to rush (perhaps to failure), especially since small incremental steps create considerable (and positive) journalistic attention in the West. Per the *Beijing Morning Post*, they have a three-step plan: a *taikonaut* in space, establishment of a space laboratory, and eventually setting up a space station. Wang Zhuangyin, a leading space program engineer, says manned spaceflight will occur by 2005. The official *China Daily* stated that China would put a man into orbit by 2005 and on the moon by 2010.<sup>41</sup> Ouyang Ziyuan, chief scientist of China's moon exploration program, has stated, "China is expected to complete its first exploration of the moon in 2010 and will establish a base on the moon as we did in the South Pole and the North Pole."<sup>42</sup>

The Chinese, however, are adamant that they will build a sustained program, not just plant a flag or return with a moon rock, alluding to the U.S. abandonment of its manned lunar program and failure to step farther into space. In a truly rational, well laid out, and well funded plan, many analysts feel, establishment of a moon base (by any country) should ultimately lead to exploitation of lunar mineral resources. Establishment of a Chinese base on Mars by 2040 has been proclaimed as a goal. In any event, the statements now being made go far beyond the 2000 white paper; the often-reticent Chinese are going out on a limb, actually assigning dates to ambitions. Experience has shown them, however, that they need not actually meet the dates to keep the rest of the world interested; they need only keep working toward them. Nonetheless, it is likely that they will not wait for 2005 for the first manned launch. With a successful Shenzhou IV precursor launch now completed, the Chinese will likely go for a first manned launch this year, in 2003. A launch date in October would coincide with the anniversary of the founding of the communist state—and potentially while the U.S. shuttle fleet is still grounded, further reminding the world of the magnitude of their technical achievement.

That the Chinese have not been included in space projects undertaken as much for their political and cooperative aspects as for their technical utility—such as the International Space Station (ISS)—has been a source of frustration for them. *People's Daily* on 27 December 2000 stated that the Chinese government would seek acceptance into the ISS program. In all fairness, ISS partners have been expected to contribute either technology or money, or both, and until

recently China has had neither. More recently, however, Brazil, a country with far less space experience than China, has become an ISS partner, making it more difficult to deny that China's exclusion includes a strong political component. The United States has historically viewed international space cooperation as both a political "carrot" and a technical way to "guide" other countries' space activities.<sup>43</sup> Europe and Canada, and later Japan (even in the previously forbidden area of launch technology), enjoyed the benefits of working with the United States in space program development. That the United States has taken a different path with China has likely, though inadvertently, contributed to China's determination now to become a space power. It is also interesting to note that since "9/11," after which many international relationships were redefined, NASA has suddenly become much more open to closer ties to Beijing. Space science traditionally serves as a safe first area of space cooperation, being relatively nonthreatening from a military perspective. Progress, even incremental, toward ISS participation would be a domestic and regional triumph for Beijing. Chances of that occurring post-*Colombia*, however, are significantly lower now than they might have been.

China has signed cooperative space agreements with a number of countries, including Canada, Germany, Italy, France, Britain, Russia, Pakistan, India, and Brazil. The scope of cooperation ranges from development of the Dong Fang Hong 3 communications satellite with Germany to a broad Russia-China cooperative agreement, to narrow scientific co-ventures. One future area of international cooperation that will be especially interesting to watch is launch services; participation in international launch services is a white-paper goal. The Chinese understand that launch consortia like International Launch Services, a joint venture between Lockheed Martin and Russian companies Khrunichev State Research and RSC Energia, marketing the Proton and Atlas launchers, have become increasingly prevalent and competitive since the Cold War. The Chinese may well be looking to find partners for the Long March series.

Another interesting cooperative arrangement the Chinese have built is with the United Kingdom's University of Surrey Space Centre. Having built and launched over twenty-five "microsats" performing a wide range of scientific missions, including earth surveillance, Surrey has specialized in marketing this new capability to developing nations. Its customers include Chile, Malaysia, Taiwan, Egypt, Algeria, Nigeria—and China. A concern about microsatellite technology has been its potential as a means to interfere with other nations' use of space. China has warned that it might consider using microsats to deny U.S. use of space in a crisis or conflict.

**ONE DEFENDS WHEN HIS STRENGTH IS INADEQUATE;  
HE ATTACKS WHEN IT IS ABUNDANT**

Space weaponry (beyond the handguns that have been carried into space by astronauts and cosmonauts), including both weapons placed in space and those on the ground for use against space-based assets, has until recently been carefully avoided by all space-faring nations. For many years it was argued that space weapons were banned by the 1967 Outer Space Treaty. What article 4 of that treaty actually says, however, is:

States Parties to the Treaty undertake not to place in orbit around the earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, install such weapons on celestial bodies, or station such weapons in outer space in any other manner. The moon and other celestial bodies shall be used by all States Parties to the Treaty exclusively for peaceful purposes. The establishment of military bases, installations and fortifications, the testing of any type of weapons and the conduct of military maneuvers on celestial bodies shall be forbidden.

The argument against weapons was hung on the “peaceful purposes” phrase. The “peaceful purposes” rationale against weapons has been eroding, however, because the parties making that argument often define “peaceful” as meaning nonmilitary, whereas the United States has long contended that “peaceful” purposes include defensive ones. Increasingly, those who argue on the ground that the 1967 treaty bans space weapons find themselves in a conundrum in the age of communications, navigation, and reconnaissance satellites—all of them dual use. Defining “peaceful purposes” as nonmilitary has become problematic for any military wanting to use space hardware.

The first efforts of both the United States and Soviet Union toward space weaponry were in the area of antisatellite (ASAT) systems; the Americans initially favored guided missiles (an early form of missile defense), while the Soviets preferred “killer satellites,” basically orbiting satellites armed with shrapnel charges that would disable enemy spacecraft. Although no formal treaty was ever signed, both countries recognized the inevitable arms race that would follow if either aggressively and consistently pursued an ASAT program. (As it happened, neither state did, though more through serendipity than rational decision making, as both programs waxed and waned in domestic support and technical achievement.)<sup>44</sup> Further, space weaponry was recognized as not without risk to all parties. Blowing things up in space creates debris. That debris in itself becomes a threat to other spacecraft, including one’s own. Soviet ASAT tests in the 1960s left debris that is still a hazard today.

The Chinese, for their part, clearly see 1998 as a turning point with respect to space weapons—a time when the Blue Team and its supporters began moving

from militarizing space—which has a long and accepted history—to weaponizing it. The U.S. Space Commission Report stated it as inevitable that space will become a battleground and that the United States would be remiss not to prepare. The United States held its first space war game in January 2001, much to the consternation of the Chinese.<sup>45</sup>

Chinese space efforts will, indeed already do, include militarization. Chinese use of satellites for troop communication or for reconnaissance equates to militarization. But the bigger question is whether China also intends to develop space weapons.

In November 2001 the Associated Press reported Huang Huikang, an official from the Chinese foreign ministry, as saying, “Some powers in the world are on the way to militarizing outer space, not peacefully exploring. Another arms race in outer space has begun since 1998 and we should be watchful.”<sup>46</sup> Obviously, Chinese reasoning for seeking to minimize a space-technology gap with the United States falls much into the same lines as that of the United States subsequent to the Space Commission Report—each feeling that they would be imprudent *not* to prepare and respond. China sees the United States as having “abundant power,” especially in space; with missile defense, it will have what many countries refer to as “the sword and the shield.”<sup>47</sup> Subsequently, a comment in a Chinese newspaper in July 2000 suggesting that for countries clearly unable to defeat the United States by tanks and aircraft, attacking its space system may be an irresistible choice, is not really surprising.<sup>48</sup>

Many analysts feel that the first “space assault” will likely be a ground-based electronic attack on a satellite. Evidence suggests, in fact, that such assaults

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*Some observers see China’s race to space as a battle with its own demons.*

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have already occurred, temporarily “blinding” satellites.<sup>49</sup>

China is purportedly aggressively working on ground-based laser

technology for that purpose. The easiest way to attack and destroy a satellite, however, is with a weapon launched from the ground. A small missile could deposit a cloud of sand, ball bearings, or other hard objects in a satellite’s path; the target’s own velocity would provide the impact needed for destruction. A dozen or so countries have the capability to build such a system, though there is no evidence any have done so. China claims, however, to have developed “parasite satellites,” orbiting bombs that attach themselves to enemy spacecraft for detonation when deemed necessary. Verification of the claim is difficult, since none has ever been launched. Arguments can be made both that it behooves China to let the United States think it has these capabilities so that it will not think China’s strength “inadequate,” and that claims like these prod the United States to be even more aggressive in its own military space

development. In either case, there is clearly an action-reaction cycle building, from which there is no obvious escape.

China and Russia have repeatedly called for a treaty banning weapons in outer space, most recently in May 2002. How those calls correspond to Chinese claims to have developed a parasite satellite is unclear. Likely they would deem that technology “defensive,” perhaps even in a preemptive sense. In any case, their calls for a ban on space weapons have gone unheeded; indeed, they are viewed as somewhat hypocritical. Perhaps the United States believes that forcing China to spend money on space technology to keep up will “break the bank,” as apparently happened in the Soviet Union because of its self-destructive efforts to respond to the American Strategic Defense Initiative. The question then becomes, however, whether it is in the best interest of the United States to deal with a strong and robust China or an imploding one, likely with problems of even greater magnitude than the former Soviet Union’s.

#### KEEP HIM UNDER STRAIN AND WEAR HIM DOWN

Early in 2002, NASA discovered on Mars potentially vast resources of underground water, close to the surface. Subsequently, there was considerable speculation that NASA was “on the verge” of announcing plans to send a man to Mars, at an estimated cost of fifty billion dollars. Other countries (Japan, Europe, China) were making advances in space, and the question was raised: would there be a new race to space? Likely there will be, but not because of water on Mars.

Lining up competitors in any potential space race today is relatively easy, though there is a wild card. Although Russia starts from a presumed position of strength, the country is a cash-strapped, emaciated shadow of its former self. President Vladimir Putin has said that Russia now has nothing to be proud of in space.<sup>50</sup> European efforts, traditionally through the European Space Agency, have long been dictated—that is, restricted—by having to get fifteen member states to agree on goals, then on funding, and then on follow-through. This will be further complicated by the new and as yet undefined role of the European Commission in space activity; the Galileo program (an alternative to GPS) will be one to watch as an indicator of the extent to which Europe will be able to match actions to rhetoric. Japan, once touted as the country most consistently progressing toward a fully matured program, is now plagued with problems in its space activities, particularly the centerpiece H-II launcher. India has an aggressive and impressive space program, but Indian decision makers are acutely aware of what politicians in the United States have long known, that in a democracy, space is positively viewed by the public but considered expendable relative to other public spending concerns. While India develops specific space technology for civil and military purposes and has generated a considerable regional

technological reputation, there is little chance that the expenditure that would be required for a manned program would be domestically tolerated.

China does not have voters to worry about (though that does not mean that it can ignore public opinion). Accordingly, although China has yet to produce a Nobel Prize laureate and remains constrained by economics, it has the scientific and engineering potential and could have the political will (arising from domestic factors and action-reaction with the United States) to stay the course in space development. That, the Chinese believe, will have a significant impact on its global image, as a country's relative position on the spaceflight learning curve can be a barometer of a nation's fortunes, while the unforgiving nature of space flight can dramatically illustrate a country's failings just as graphically.

The wild card may well be South Korea. It has plans for indigenous satellite launches, including military satellites, by 2005. The prestige and military implications of that could spur Japan to reinvigorate its own efforts, in turn challenging China, with implications for India. A successful Chinese manned launch could also push Japan toward an autonomous manned program—a decision that risk-averse Japan has been avoiding for many years. On the other hand Japanese risk-aversion will be strengthened by orders of magnitude post-*Columbia*. Certainly, however, regional action-reaction considerations will come into play, the pertinent question becoming how quickly they would expand beyond the United States and China.

Sun Tzu's adage of bearing down on the enemy seems to encapsulate the current approaches of both the United States and China. China does not have to be an enemy of the United States, but it is certainly destined to be a competitor, if the U.S. benchmark for competition in Asia is anything beyond the status quo. If the United States continues to exploit the obvious military advantages of space and China feels compelled to respond, a space race of some sort seems inevitable. It is inevitable because both countries recognize that space can provide advantages, or at least avoid disadvantages, vis-à-vis the other. It may inevitably make China the third man in the fourth battlefield.

Whether China intends to be the tortoise or the hare in the space race is a relative matter. China invented the game of *Wei Qi*, the Asian equivalent of chess (commonly called "Go" in the West); it has 256 pieces with which to strategize, versus sixteen in chess. That complex a planning perspective, in the context of a country with a continuous five-thousand-year history, exemplifies the dramatic difference between China's idea of long-term planning as opposed to that typical of the United States. Nevertheless, the Chinese clearly have committed themselves to the goal of space development, at whatever rate funding permits; it will



be factored into the precarious balancing act the Chinese regularly practice. China's manned space program is about its determination to regain what it considers its deserved place in global, and by default regional, politics.

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#### NOTES

1. Shenzhou is also referred to as "Magic Vessel," "Magic Boat," or "Vessel of the Gods." *Taikonauts* are also called *yuhangyuans* in Chinese.
2. For some exceptions, see Joan Johnson-Freese, *The Chinese Space Program: A Mystery Within a Maze* (Malabar, Fla.: Krieger, 1998); Brian Harvey, *The Chinese Space Program: From Conception to Future Capabilities* (Chichester, U.K.: Praxis Publishing, 1998); Mark Stokes, *China's Strategic Modernization: Implications for the United States* (Carlisle, Penna.: Strategic Studies Institute, 1999).
3. See David Baker, ed., *Jane's Space Directory 2002–2003*, 18th ed. (Coulston, Surrey, U.K.: Jane's Information Group, July 2002), and Make Wade's contributions at [Astronautix.com](http://Astronautix.com) for perhaps the most comprehensive unclassified sources of empirical and technical information.
4. Melinda Liu, "Time to Shoot for the Moon," *Newsweek*, 28 October 2002, p. 44. In one scenario, they are also seeking *lebensraum* for their still-expanding, 1.2 billion-plus population.
5. Estimates of Chinese space expenditures are difficult. They are usually placed at somewhere between \$1.3 and \$2 billion, depending on what is included and how calculations are done.
6. *Annual Report on the Military Power of the People's Republic of China: Report to Congress Pursuant to the FY2000 National Defense Authorization Act*, July 2000, at [www.defenselink.mil/news/](http://www.defenselink.mil/news/).
7. An overview of the military uses of space can be found in Daniel Gonzales, *The Changing Role of the U.S. Military in Space*, MR-85-AF (Santa Monica, Calif.: RAND, 1999); Roger Handberg, *New World Vistas: The Militarization of Space* (Westport, Conn.: Praeger, 2000); James Oberg, *Theory of Space Power* (Washington, D.C.: U.S. Government Printing Office [hereafter GPO], 1999); Peter L. Hays, "United States Military Space into the Twenty-first Century," Institute for National Strategic Studies [hereafter INSS] Occasional Paper 42 (Washington, D.C.: National Defense Univ. Press, September 2002).
8. Ben Iannotta, "China's Divine Craft," *Aerospace America*, April 2001, p. 36.
9. "China Crusades to Leading Position in Aerospace," Xinhua General News Service, 22 November 2001.
10. The subheads are drawn from Sun Tzu: here, chapter 3; "Invincibility" and "One defends," chapter 4; "Keep him," chapter 1. The epigraph is taken from chapter 7.
11. Walter McDougall, . . . *The Heavens and the Earth* (New York: Basic Books, 1985); John Logsdon, *Decision to Go to the Moon: The Apollo Project and the National Interest* (Cambridge, Mass.: MIT Press, 1970).
12. Jobs, especially in key electoral states, were key decision factors in the shuttle and other space programs as well.
13. Jean-Jacques Servan-Schreiber, *The American Challenge* (New York: Avon Books, 1967); Roger Williams, *European Technology: The Politics of Collaboration* (London: Croom Helm, 1973).
14. "The U.S. Rules in Space, at Risk of Arms Race: SIPRI," Agence France Presse, 13 June 2002.
15. Bruce Sterling, "Peace Is War," *Wired Magazine*, April 2002, at [www.wired.com/wired/](http://www.wired.com/wired/).
16. Available on the World Wide Web at [www.defenselink.mil/pubs/](http://www.defenselink.mil/pubs/).
17. John M. Logsdon, ed., *Exploring the Unknown*, vol. 2 (Washington, D.C.: GPO, 1996), p. 262.
18. On technical assistance by American firms, see Joan Johnson-Freese, "Becoming Chinese:

- Or, How U.S. Satellite Export Policy Threatens National Security," *Space Times*, January–February 2001, pp. 4–12, and "Alice in Licenseland: U.S. Satellite Export Controls since 1990," *Space Policy*, August 2000, pp. 195–204.
19. Eric A. McVadon, "A Purple China Policy for the U.S.," *Far East Economic Review*, 21 December 2000, p. 29; and Jay Branegan, "A 'Blue Team' Blocks Beijing," *Time*, 16 April 2001, p. 32.
20. Full text at [www.spaceandtech.com/digest/sd2000-35/sd2000-35-012\\_white-paper.shtml](http://www.spaceandtech.com/digest/sd2000-35/sd2000-35-012_white-paper.shtml) [accessed 5 November 2002].
21. After initially involving scientists and engineers in the political upheaval, Zhou Enlai himself stepped in to stop it, even putting armed guards at some facilities.
22. His name is sometimes spelled Chien Hsueshen, or Tsien Hsueshen.
23. See the description in Iannotta, "China's Divine Craft."
24. "China Planning Moon Landing as First Step to Mars," *Agence France Presse*, 20 May 2002.
25. Wu Tse and Li Tsinlung were sent to the cosmonaut training center in Zvezdny Gorodok.
26. "'China' picks its first astronaut," *Straits Times* (Singapore), 3 January 2003.
27. CAC was also sometimes known as CASC. Chinese bureaucracies and organizations are regularly reorganized and renamed, though personnel and buildings rarely change. Some of these reorganizations are more substantive than others. The more recent efforts are seen as real efforts toward more effective management while avoiding the kind of economic collapse, which the Chinese viewed with horror, that "reform" brought in the former Soviet Union in the early 1990s. CASTC is often still referred to as CASC, recalling its predecessor organization, CAC/CASC.
28. *Federation of American Scientists*, [www.fas.org/nuke/guide/china/contractor/casc.htm](http://www.fas.org/nuke/guide/china/contractor/casc.htm).
29. *Ibid.*
30. BBC Worldwide Monitoring, "Chinese Aerospace Corporation Meeting Discusses Development," *Xinhua News Agency Domestic Service*, 13 August 2002.
31. General Cao Gangchuan, head of the General Armaments Department, has been the commander of China's manned space program. He has recently been made one of the three vice chairs of the Communist Party's Central Military Commission, an even loftier position. That means he will very likely be even better able to advance his agenda.
32. Hence, Chinese launchers are referred to as Long March (LM) or Chang Zheng (CZ), and strategic missiles as Dong Feng (DF). Many Chinese space systems (and institutions) have multiple and sometimes "classified" designations, for internal and external use. Sometimes these multiple designations are deliberate, sometimes merely artifacts of history. Individuals within China often still refer to numerical academy and institution labels (the China Academy of Launch Vehicle Technology, for example, is the former First Academy, and the organization in Xi'an responsible for commercial payloads is still known as the 504 Institute) that have long since changed, many times. This can be a source of constant confusion for outsiders.
33. See Johnson-Freese, "Becoming Chinese," "Alice in Licenseland."
34. The Chinese operate from three launch sites: Xichang, in Sichuan Province (all geosynchronous satellite launches); Jiuquan, in the Gobi Desert in Gansu Province (Chang Zheng 2F and Shenzhou spacecraft); Taiyuan, in Shanxi Province (polar orbiting spacecraft). It was from Taiyuan that the twelve Iridium satellites were launched between 1997 and 1999. There has been speculation that the Chinese may build on Hainan Island another site, more along the model of Kennedy Space Center—that is, more open to the international community.
35. The number 108 is significant in the Buddhist tradition and culture—humans must overcome 108 earthly passions before achieving enlightenment.
36. Cheng Ho, "Confusion and Mystery of Shenzhou 2 Mission Deepens," 27 February 2001, [www.spacedaily.com](http://www.spacedaily.com), 27 February 2001 [accessed 21 January 2003]. The Chinese were also particularly upset about Western press reports of a fruit-fly reproduction experiment, which they dismissed as nonsense.

37. Likely the better to control media and information about the launches, the Chinese, like the Soviets before them, have opted for all terra firma landings.
38. "China to Launch Next Space Mission in New Year," Agence France Presse, 12 November 2002.
39. Craig Covault, "NASA Eyes China Ties as *Shenzhou* Flies," *Aviation Week & Space Technology*, 1 April 2000, p. 27.
40. Craig Covault, "Chinese Rocket R&D Advances," *Aviation Week & Space Technology*, 12 November 2001, p. 54. UDMH = unsymmetrical dimethyl hydrazine.
41. "China Joins Moon Race," *Montreal Gazette*, 21 May 2002, pp. B6.
42. "China Planning Moon Landing as First Step to Mars," Agence France Presse, 20 May 2002.
43. See Joan Johnson-Freese, *Changing Patterns of International Cooperation in Space* (Malahide, Fla.: Krieger, 1990).
44. See Joan Johnson-Freese, "The Viability of U.S. Anti-Satellite Policy: Moving toward Space Control," INSS Occasional Paper 30 (Washington, D.C.: National Defense Univ. Press, January 2000).
45. The first space war game was known as SCHRIEVER I. SCHRIEVER II was held in February 2003. Catherine Tsai, "Air Force Tests Next-Generation Technology in War Game," Associated Press, 20 February 2003.
46. Reported in James P. Pinkerton, "The Great Leap Forward: China Gets Space—America Can't Afford Not To," *American Spectator*, March–April 2002, pp. 38–39.
47. Even though the Pentagon has now said that the Patriot (PAC-3), the most advanced U.S. antimissile system, is still so unreliable that it would have played only a secondary role in the war with Iraq, other countries take plans for it and other systems that do not even exist as capabilities they must plan for. Paul Richter, "In Event of War, Patriots Won't Be on Front Line," *Los Angeles Times*, 2 November 2002, p. A5.
48. The Chinese report is referenced in James Oberg, "The Heavens at War," *New Scientist*, 2 June 2001, p. 2626.
49. Ibid.
50. "Runners-Up in the Space Race," *The Economist*, 14 April 2001.

## CHINA'S CLOSING WINDOW OF OPPORTUNITY

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*Justin Bernier and Stuart Gold*

Conventional wisdom says that the People's Republic of China is, for better or worse, recovering its place as a major power on the world stage. To its citizens and leaders, many of whom regard the Middle Kingdom's decline in the nineteenth and twentieth centuries as a historical anomaly and its modern resurgence as a national priority, this renewed stature means a larger economic, political, and military role for China in East Asia and beyond. It also means Taiwan's return to the PRC fold, without which China's destiny will remain unrealized in the hearts and minds of most mainlanders.

Many analysts and cogent observers have already concluded that history is on China's side in the struggle over Taiwan, which Beijing considers a renegade province.

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As China's size and strength continue to grow in the Asia-Pacific region, they say, Taiwan will have little choice but to yield—on its own terms if the fledgling democracy is lucky and wise. The same China watchers quickly point to the PRC's steady military buildup and substantial, albeit uneven, economic growth as proof that today's relatively weak Beijing will in due course develop the muscle it needs either to take the twenty-three-million-strong Republic of China forcibly or pressure Taipei into accepting a Hong Kong–like arrangement. Most estimates put the inevitable day of reckoning somewhere between ten and twenty years from now, when China's military and economic engines are expected to overshadow those of most of its regional neighbors, if not Japan.

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A more realistic, comprehensive examination of the pertinent trends reveals a different future. An attempted blockade and limited missile campaign—the most plausible attack scenario—would be more likely to produce China’s desired results in this decade than in the next. By 2010, the guardian United States will have strengthened its military position in the western Pacific relative to China, and a defensively stronger Taipei will have fully embraced, if not institutionalized, Taiwan’s increasingly popular “status quo” approach to cross-strait affairs, further marginalizing the idea of reunification. Added to other unmistakable trends, such an environment will make a PRC move on Taiwan exponentially riskier. The conservative defense planners in Beijing almost certainly realize this. If Chinese aggression in East Asia is to be deterred, Taiwan and the United States must also recognize and prepare for this alternate reality.

### TAIWAN’S STATUS QUO CONSENSUS

Happy on average with its national identity and way of life today, Taiwan is unlikely to join voluntarily an authoritarian, economically unpredictable PRC, absent some use of force by the mainland. Never cordial neighbors, the two parties’ differences have hardened in recent years, while the Republic of China’s successful democratic experiment has tipped the domestic political scale in favor of the status quo, perhaps forever.

At the heart of this political shift is the breakdown of the pro-reunification Kuomintang, or Nationalist Party, Beijing’s best hope for a peaceful merger. Plagued by infighting and mass defections to splinter factions after half a century of uninterrupted rule, the party of the ROC’s “founding father,” Chiang Kai-shek, lost its majority in the parliament for the first time in history in December 2001, surrendering almost half its seats. Following a disappointing third-place finish in the presidential race one year earlier, the shocking loss was widely blamed on the Kuomintang leadership’s decision to remain faithful to the party’s historical, but increasingly unpopular, commitment to reunification.

The new government is led by native-born Chen Shui-ben. His Democratic Progressive Party (DPP) had made periodic assertions of defiance—such as Chen’s now-famous pronouncement to an American interviewer that “Taiwan is an independent country,” or his coy support for a national referendum on independence—each of which prompted warnings from Beijing. However, the DPP, which downplayed its independence proclivities near the end of its journey from the minority to the majority, has demonstrated no measurable interest in a serious showdown since taking power two years ago.<sup>1</sup> Like a plurality of Taiwan’s citizens, Taipei’s new leadership appears satisfied with the status quo, a position tantamount to independence but without the pitfalls of a formal declaration. “Status quo” is congenial to most Taiwanese voters, who no longer see

reunification as desirable, or even practical, given their growing prosperity and expanding political rights, and it has been reinforced by events in Hong Kong that have called Beijing's trustworthiness into question—including the reappointment of an unpopular chief executive and his fourteen "ministers" for a second five-year term without even the pretense of an election. With most voters in favor of maintaining the present state of affairs, the Kuomintang must accordingly water down its reunification stance in future elections if it hopes to remain competitive on the national stage. Even China's new president, Hu Jintao, has conceded (as vice president) that a majority of islanders favor maintaining the status quo, though he said that Taiwanese polls show the number of reunification advocates rising—a claim refuted by Taipei and most surveys, which put support for Chinese rule under a "one country, two system" model safely below 10 percent.<sup>2</sup>

Taiwanese public opinion on reunification is in fact surprisingly steady, though pro-status quo figures are misleadingly small. In 2001, reunification opponents—those who ultimately want independence or the status quo forever—collectively polled around 40 percent. Merger advocates, Taiwanese who favor reunification either now or later, showed only half as well, with those backing "reunification now" perennially under 5 percent.<sup>3</sup> About one in three Taiwanese are for "maintaining the status quo to decide unification or independence in the future";<sup>4</sup> but this group is probably more "status quo now" than "decision later" at heart.<sup>5</sup> Polling by the official Mainland Affairs Council indicates that many Taiwanese citizens who say they want to decide the matter later actually reject the most—maybe only—plausible peaceful reunification scenario. The council demonstrated that "when Beijing's formula of 'one country, two systems' for resolving cross-strait issues is clearly spelled out (that Taiwan is a local government, subject to the rule of the Beijing government, and the ROC [Republic of China] government no longer exists"—something akin to the Hong Kong deal—70 to 74 percent of respondents rejected the measure.<sup>6</sup> A separate think-tank survey shows the Taiwanese people equally united against forced reunification, with more than three-quarters of respondents willing to defend the nation if China launched an attack to take it over and only 10 percent unwilling to bear arms.<sup>7</sup> At least a sizable majority of Taiwan, it reasons, opposes Beijing's demands for political merger by peaceful and violent means alike, even if most do not clamor for traditional independence.

Predictably, the voters have rewarded Taiwan's like-minded political parties. To be sure, the DPP's political fortunes might dissipate were the charismatic presidential hopeful James Soong and his People First Party to revitalize the "pan-blue" alliance—those parties that support eventual reunification—by merging with the cash-rich Kuomintang, but a DPP loss would probably be



immaterial. Besides Soong's support for "one roof" with "two seats" (an implied call for delaying reunification), public opinion is no longer a secondary consideration of Taiwanese politicians.<sup>8</sup> Whoever wins the ruling seat, Taiwan's new, truly multiparty democracy promises to represent better the pro-status quo majority, a consensus that developed under the previous authoritarian regime, before the island's first lawful change of power. As one observer put it, "When the Kuomintang was in power, the authorities refused to adopt a new separate identity because it could cost them their legal basis"—that Taipei was in fact China's legitimate government—"however false it was, for ruling."<sup>9</sup> Today, Taiwanese voters can freely realize a cross-strait policy that better reflects their own opinions and desires, if not necessarily those of Beijing. So far, they have done so in both of Taiwan's open presidential contests, electing closet independence-advocate Lee Teng-hui in 1996, four years before Chen's victory forced mainland leaders to consider the possibility that the runaway province might never willingly return.

### BEIJING'S SOLITARY OPTION

Implicit threats of violence have failed to steer Taipei and its constituents toward serious reunification talks. In March 1996, Taiwan's first-ever presidential elections went forward despite missile tests aimed at draining support for Lee, the eventual winner with 54 percent in a field of four candidates. A year earlier, similar intimidation tactics had failed to influence the island's parliamentary elections in the PRC's imagined favor. Both times the Beijing-preferred Kuomintang party suffered losses, while public support for independence or the status quo stayed safely above 66 percent (defiantly rising one year). In each instance, Taiwanese support for reunification briefly peaked as high as 27 percent—unusually inflated numbers, but hardly the groundswell for which Beijing had apparently gambled.<sup>10</sup> Frustrated and humiliated by such political backfires, Beijing refuses to renounce violence against Taiwan, one of its official defense white papers declaring a readiness to "adopt all drastic measures, including the use of force, to . . . achieve the great cause of reunification" if the Republic of China declares independence or drags its feet in negotiations.<sup>11</sup> Fortunately for defense planners in Washington and Taipei, Beijing's plausible military options are as narrow as its threats are vague.

The most dramatic but least feasible PRC threat is an amphibious attack with hundreds of thousands of People's Liberation Army (PLA) troops supported by ballistic missile barrages, aircraft, naval forces, and all manner of modified merchant ships. A host of analysts and government reports have poured cold water on this frequently discussed scenario, revealing China's sea and airlift shortcomings, the numerous force-concentration problems associated with Formosa

beach landings, and, not the least, Taiwan's super-hardened land defenses. Piers Wood and Charles Ferguson, for example, persuasively argue that China lacks not only the amphibious assault ships to bridge the strait with enough firepower and men but also the port capacity to employ hundreds of potentially useful civilian craft.<sup>12</sup> Their conclusion was shared by Admiral Dennis Blair, former commander of the U.S. Pacific forces, who not long ago reported that "the PLA is still years away from the capability to take and hold Taiwan."<sup>13</sup>

By comparison, a naval blockade could bring Taiwan to its knees with relative ease and minimal international protest. A sustained interruption of key sea lines of communications would be economically disastrous for the Taiwanese economy, which relies heavily on shipping for its lifeblood trade and energy needs, some two-thirds of which are fulfilled by fossil fuel imports.<sup>14</sup> Even a temporary closure would likely prove debilitating for the import/export-dependent economy. Shortly prior to Taiwan's 1996 election, for example, all merchant marine traffic to Taiwan was halted for days after China fired several unarmed DF-15 short-range missiles toward the island's two largest ports, the closest of them falling approximately twelve miles from land. Traffic into Taiwan's northern port was similarly blocked the previous year after China lobbed six DF-15s into the strait some eighty-five miles north of the island.<sup>15</sup>

China's green-water navy could isolate Taiwan using mines, surface ships, and even state-sponsored piracy—an unconventional yet effective tool in the dangerous South China Sea. As sunken or stolen cargo raised sensitive shipping and insurance costs to prohibitive levels, a blockade strategy would almost certainly trigger price spikes overnight, causing shortages and rushes on stores soon thereafter. Chinese mines, ranging from older contact types to more modern command-activated models that lie in wait for specific acoustic signatures, could block harbor and port entrances as well as shipping lanes (though Beijing might be reluctant to permanently close those shipping lanes on which it too depends). The People's Liberation Army Navy (PLAN) possesses submarines, aircraft, and over forty major surface ships capable of laying mines, in addition to some two hundred smaller vessels available for lesser mining roles.<sup>16</sup> In the words of the Communist Party mouthpiece, the *People's Daily*, "Surface warship, submarine, airplane, merchant ship and even sampan can all be used to deploy mines," which then become the "dragon in water."<sup>17</sup>

There is currently little Taiwan could do in response to an aggressive undersea campaign. With at most a dozen outdated counter-mine warfare ships at hand (though it may buy some American minesweeping helicopters), Taiwan would be hard pressed to clear any sizable minefields, known or suspected.<sup>18</sup> The ROC navy's submarine force is similarly outmatched. Its four diesel models—two dating from the 1940s—and nominal antisubmarine capabilities could not

seriously challenge China's force of seventy submarines, the best of which include four Russian-built Kilo-class boats (though two may be seriously damaged) and five nuclear-powered units of the Han class.<sup>19</sup> Taiwan's fleet will be even less effective against the Hans' eventual replacement, the Type 093 nuclear-powered attack submarine, which will be operational sometime after 2005. Reflecting Russian influence and technology, the Type 093 will carry potent wire-guided and wake-homing "fire and forget" torpedoes as well as cruise missiles.<sup>20</sup> Beyond procurement, China's submarine training program concentrates "on concealment and ambush procedures, formation attacks, long-range deployments, minelaying and torpedo strikes against surface shipping."<sup>21</sup>

Taiwan is equally unprepared today for a traditional blockade by the Chinese surface fleet, which is numerically and qualitatively superior. Its newest additions, two Russian-built *Sovremenny*-class destroyers fitted with the supersonic Sunburn ship-killing cruise missiles, present an edge over anything Taiwan has sent to sea this decade. News that Russia will deliver to China by 2005 or 2006 another two *Sovremennys*, probably fitted with the even deadlier 186-mile-range Yakhont antiship cruise missile, makes a bad situation worse (if they can be put on target).<sup>22</sup> In contrast, Taiwan's surface fleet is still based on older Harpoon-armed American ships and a handful of readiness-plagued French *La Fayette* frigates with missile defenses outclassed by both the Sunburn and the Yakhont. Though useful and capable in many other respects, Taiwan's four *Kidd*-class destroyers will not appreciably alter the surface warfare balance in the narrow strait. These ships are outranged by China's Russian-made cruise missiles and lack the means to detect them early enough to engage them with their Standard missiles. (The proposed tactic—dubbed "open-seas mobility"—for dealing with the new threat is reportedly to deploy the *Kidds* far from the strait, in the vicinity of Guam.)<sup>23</sup> The *Sovremenny*, with only modest 1970s-era defenses, is vulnerable to U.S. air and submarine attack, but if the ROC navy challenged a PLAN blockade alone, hostilities could not be expected to last long.<sup>24</sup>

## NEGOTIATIONS AT MISSILE-POINT

An effective blockade alone could lead to economic collapse and panic, but a bigger push might be required to convince a stubborn Taiwan to accept reunification. Beijing may believe that a limited but sustained ballistic missile campaign could provide the final inducement. According to a famous news story, just before the March 1996 missile tests a Pentagon official returned from China and reported to National Security Advisor Anthony Lake that he had learned that the Politburo had plans prepared for a rocket attack against Taiwan consisting of one conventional strike a day for thirty days.<sup>25</sup> The idea was presumably to make a panicked public force Taipei into an agreement favorable to the

mainland. Though the threat may have been planted, coming as it did shortly before Taiwan's presidential election, it nonetheless demonstrated China's apparent willingness to pursue reunification in such a way.

Accurate missiles would be an integral part of this strategy. Much has been said about China's missile buildup in Fujian Province opposite Taiwan, where the Second Artillery Corps is adding some fifty missiles a year to its estimated arsenal of 350 (as of July 2002) mobile short-range ballistic missiles.<sup>26</sup> Once fully integrated with satellite-aided guidance systems, as expected, these weapons will transform China's growing short-range missile stockpile from a clumsy political tool into a paralyzing military threat also capable of reliably hitting prime economic and population centers. To name targets beforehand, such as office complexes, airports, and key industrial hubs—concentrated civilian fuel reserves could be wiped out with a few ballistic missiles, according to Taiwan's defense minister—would have an immeasurable effect on morale, possibly even dissolving the island population's will and ability to resist.<sup>27</sup> China boasts plans to use the Global Positioning System (GPS) on its M-type missiles, which likely include the Dong Feng 15 (or DF-15, also known as the M-9) and another short-range rocket, the DF-11 (or M-11).<sup>28</sup> In fact, the accuracy of the DF-15—deployed in Fujian, and the missile used in the 1995 and 1996 Taiwan Strait missile tests—has already been improved with navigation data from the U.S. GPS constellation.<sup>29</sup>

A large and accurate missile barrage could do incalculable damage to Taiwan's defenses and infrastructure, but saturating the island with rockets and land-attack cruise missiles—another type of weapon China is busily amassing—would probably be counterproductive. Instead of complementing a blockade strategy to bring Taipei to the bargaining table once and for all, a full-scale missile strike would likely inflame Taiwanese defiance and make the island a martyr in the eyes of potential saviors. The United States, Australia, the United Kingdom, and even the United Nations would be hard pressed to look away as China pummeled Taiwan with high-explosive warheads or worse. Taiwan is now essentially defenseless against a Chinese ballistic missile attack, but its plan to buttress a very limited Patriot II theater missile defense system with the third-generation Patriot Advanced Capability 3 (PAC-3) probably worries Beijing, which would be embarrassed were Taiwan to shoot down a missile strike during a blockade attempt.<sup>30</sup> Although hardening defense facilities would probably be the most effective countermeasure to a missile attack, successful intercepts could postpone a Taiwan collapse, affording Washington time to take action. Partly in response, Beijing has deployed longer-range missiles, like the GPS-guided DF-21, farther inland, where they can target Taiwan from a distance that makes the forthcoming PAC-3 and other "lower tier" defenses ineffective.<sup>31</sup>

This partial solution, or hedge, further explains Beijing's emotionally charged opposition to any deal that would bring more capable "upper tier" defenses, like the Aegis-based Navy Theater Wide System, to Taiwan.

China may see alternatives to challenging the international community. A limited missile strike—possibly coupled with debilitating special-operations attacks—could plausibly remain below the threshold of "intervention," especially if U.S. forces were preoccupied. This last point is important because China undoubtedly understands that if American help does come, it would probably not end at assistance in missile defense. Beijing appears to think that its current long-range nuclear deterrent, momentarily based on some two dozen vulnerable silo-based intercontinental ballistic missiles (ICBMs), is insufficient to deter the United States from exercising force in a serious cross-strait crisis. The realization probably drives not only Beijing's opposition to a U.S. national missile defense but also its own well-documented strategic modernization program, which began in earnest sometime in the early 1990s, shortly after the Soviet Union's collapse allowed China to turn its attention to Taiwan.

China likely believes its future deterrent forces, based on mobile ICBMs like the already serviceable, five-thousand-mile-range DF-31 and its longer-range DF-41 version, can discourage a preemptive nuclear attack by the United States, the secret nuclear doctrine of which reportedly lists China as "a country that could be involved in an immediate or potential [nuclear] contingency."<sup>32</sup> Even so, these improved weapons will only level the strategic playing field between the two nuclear powers, protecting the Chinese homeland from strategic preemption and direct attack but little else. China has conveyed an implicit threat to level America's second-largest city should Washington interfere in a cross-strait war—"Americans care more about Los Angeles than they do about Taiwan," warned one Chinese general—but the United States has not shrunk in the past from its security commitments, formal or otherwise, when nuclear exchanges were possible and is unlikely to alter its engagement policies any time soon, barring a major turnabout in America's global defense strategy.<sup>33</sup>

#### WIDENING THE MOAT

Political trends in the United States make it harder for Beijing to bully Taipei into resuming reunification talks, which ended abruptly in 1999 after President Lee Teng-hui, by outlining his groundbreaking "two states doctrine," challenged the "one China" understanding that Washington and Beijing had worked hard to preserve since 1978. In the spring of 2002, President George W. Bush effectively dumped "strategic ambiguity," the decades-old policy of deterring Beijing from attacking Taiwan while discouraging Taipei from recklessly moving toward independence. Administration officials have made it abundantly clear that U.S.

policy still does not support a declaration of independence, but Bush's sweeping promise to do "whatever it takes" to help defend the island—the first time an American president has made such a declaration on Chinese soil—ties U.S. and Taiwanese security closer than perhaps at any time since the early 1970s, when the island was Washington's "unsinkable aircraft carrier."<sup>34</sup>

The Bush administration has drawn dramatic distinctions between its Taiwan Strait policy and that of its predecessor, referring to its own posture as one of "strategic clarity." More tangibly, after Bush's first Asian diplomatic swing U.S. officials revealed that the White House had decided to put aside the previous administration's "three noes"—no support for Taiwan's independence; no support for "two Chinas" or "one China, one Taiwan"; and no support for Taiwan's membership in international organizations that required statehood. Replacing the old framework is the "six assurances," the Ronald Reagan-era security policy that emphasized unabated arms sales to Taiwan and a hands-off approach to cross-strait negotiations. Assistant Secretary of State James Kelly brought this point home during a Florida conference speech in the presence of Taiwan's defense minister: "U.S. security policy continues to be embodied in the 'six assurances' offered to Taiwan by President Reagan. Today, as previously, we will neither seek to mediate between the PRC and Taiwan, nor will we exert pressure on Taiwan to come to the bargaining table. You can count on this."

The State Department's top East Asia official went on to underline Washington's commitment to help Taipei meet its self-defense needs: "A secure and self-confident Taiwan is a Taiwan that is more capable of engaging in political interaction and dialogue with the PRC."<sup>35</sup> Coupled with Bush's pledge to defend the island from mainland aggression, this new policy structure leaves little to the imagination, arguably reducing Taiwan's incentive to deal with an impatient, even angry, Beijing.

A change in the White House could alter this course, but parallel domestic political developments ensure extension of the current policy far beyond 2004. For instance, in 2002 a large, bipartisan group of members of the U.S. House of Representatives founded the Congressional Taiwan Caucus to bolster the keystone 1979 Taiwan Relations Act, which requires the Pentagon to sell the island enough arms to defend itself. The 113-member caucus (at last count) includes dozens of representatives from key committees, including senior lawmakers actively engaged in Washington's Taiwan and China policies. Congressional support for the Republic of China is not a passing fad; in 1999 the Taiwan Security Enhancement Act—cosponsored by an impressive seventy-seven members—passed in the House 341 to seventy, reaffirming broad support in that body for the Taiwan Relations Act. (The Senate never voted on the measure; its version of the bill stalled in the Foreign Relations Committee amid strenuous Clinton



administration appeals and warnings from Admiral Blair that it would cause grave transpacific tensions. The legislation's failure was not interpreted, however, as Senate disapproval.)

Support from the Taiwan Caucus and other key members of Congress will help sustain the arms flow that gives teeth to this new arrangement. Bush's approval of the largest defense package to Taiwan since 1992, valued at nearly six billion dollars, fell short of Taipei's request for advanced seaborne missile defenses but opened the door for the island to buy several big-ticket items, including eight diesel-electric submarines, twelve antisubmarine P-3 Orion aircraft, Sea Dragon minesweeping helicopters, and *Kidd*-class guided-missile destroyers, which are expected to prepare its Navy to operate the theater-missile-defense-capable Aegis destroyers.<sup>36</sup> These "legacy" systems, plus the subsequently approved sale of thirty Apache Longbow attack helicopters, prove that the Bush administration is making good on its promise to normalize arms sales to the island and could very well help Taiwan resist a naval blockade; their greatest benefit, however, will be more frequent and substantive military exchanges with the United States. Deputy Defense Secretary Paul Wolfowitz said as much at the Florida conference mentioned above, when he counseled that military improvements, not multibillion-dollar procurement deals, should be Taipei's top defense priority and that the United States is "eager to help" Taiwan improve its armed services' procurement process, training, and jointness—a shortcoming highlighted by recent war games there.<sup>37</sup> The Bush administration also wants to help civilian Taipei master its control over the military, long considered an extension of the Kuomintang.

On the world stage, U.S. diplomatic support for Taiwan has frustrated PRC efforts to check an aggressive DPP campaign to gain admittance to prominent international organizations. Though Chinese diplomats blocked Taiwan's bid for observer status in the World Health Organization—a possible precursor to full UN membership, in Beijing's eyes—the Bush administration successfully lobbied for the island's accession to the World Trade Organization (WTO), albeit as a "separate customs territory," and actively advocates its entry into other international assemblies of sovereign states.

Building on this success and anxious to expand market-access measures already in place under the WTO, as well as rechannel tens of billions of dollars in "China fever" investment outflows, Chen's government enthusiastically welcomed news that a U.S. commission is carefully considering a free-trade agreement with Taiwan, the tenth-largest American export market, immediately behind China.<sup>38</sup> Movement toward a bilateral trade deal—or trilateral zone were Japan included, as Chen recommends—sends an unmistakable political message to Beijing, that in a world where trade pacts may be more important than state-to-state military treaties, an attack on Taiwan could amount to an attack

on the American economy. Still, such an arrangement could be years away, despite “fast track” trade negotiating authority and solid congressional support from heartland senators like Iowa’s Charles Grassley, chairman of the Senate Finance Committee, and Max Baucus of Montana, ranking Democrat on the Finance Committee. A free trade agreement would likely boost by hundreds of millions of dollars food exports to Taiwan, the fifth-largest market for U.S. agriculture products (ahead of China), but the failure of Taiwan so far to meet its basic WTO responsibilities, such as those related to intellectual-property issues, rules out a deal any time soon.<sup>39</sup> Nevertheless, movement in this direction tells Beijing that the United States is deepening its investment in Taiwan’s well-being at more than one level.

### MASTERING A MATURING PLA

Closer political and formal economic ties, added to the reopening of Washington’s arms spigot after almost ten years of drought, are steadily reducing Taiwan’s susceptibility to mainland coercion and attack. However, a growing U.S. defense presence in East Asia and improvements in the capability of Pacific forces relative to the PLA will continue to present China with its greatest impediment to a coercive reunification strategy.

Calling attention to “the possibility . . . that a military competitor with a formidable resource base will emerge in the region,” the report of the 2001 Quadrennial Defense Review (QDR), the Pentagon’s primary strategic roadmap, calls for a “paradigm shift in force planning” that adds new and better military capabilities to the Pacific theater, where long distances and access challenges could prove costly in a major theater war.<sup>40</sup> Citing an unnamed threat, the QDR recommended that the United States add in the Pacific a second aircraft carrier battle group, up to four new surface ships, submarines with cruise missiles, and additional air bases. Indeed, the Navy has already “stood up” Submarine Squadron 15 on Guam, more than three thousand miles west of Hawaii, allowing its two *Los Angeles*-class attack submarines, the USS *San Francisco* (SSN 711) and USS *City of Corpus Christi* (SSN 705)—USS *Houston* (SSN 713) will join them in January 2004—to provide eighty-eight to 123 mission-days per year, compared to thirty-six for Pearl Harbor-based boats.<sup>41</sup> At the same time, innovative solutions to surface-ship readiness problems, such as a tested “crew-swapping” idea intended to eliminate transit time and extend deployments without punishing sailors and their families, will provide regional combatant commanders with 270 additional days of surface combat power over a year-and-a-half period.<sup>42</sup> This Asia-centric, “forward deterrence” defense policy, if fully adopted, as Bush administration officials assure the public that it will be, would improve U.S. projection options and guarantee uninterrupted carrier-battle-group presence in

the western Pacific. The latter has been dangerously absent in past regional crises, most recently when the USS *Kitty Hawk* (CV 63) left Japan for the Indian Ocean to support operations in Afghanistan. The overall result should be a further check upon Chinese ambitions.

New regional operating concepts will buttress these seaborne platforms and reduce U.S. Pacific Command's reliance on politically shaky basing agreements. Central to these plans is the Air Force's strategy of using Guam as a main operating base for tactical missions into the region from its periphery. Andersen Air Force Base is ideal for its hardened facilities and for its distance from Taiwan (nearly 1,500 nautical miles)—close enough to provide combat support over the strait using new, longer-range fighters in conjunction with air “tanker bridges,” but far enough away to limit the effectiveness of PLA missiles.<sup>43</sup> Future U.S. capability improvements will only enhance this smarter, beefed-up western Pacific presence. Better and more precise long-range air assets, including new stealth bombers and standoff munitions, will allow American pilots to challenge the PLA's maturing anti-access strategy from safer distances; planned carrier-based unmanned combat air vehicles and improved cruise missiles may be even less susceptible to Chinese defenses.<sup>44</sup> Under the sea and on the surface, astonishing American naval advancements, like those incorporated in the revolutionary *Virginia*-class attack submarines, continue to outpace PLAN's near-term ambitions, which China's moribund domestic arms industry has forced it to pin to foreign acquisitions.<sup>45</sup>

Some analysts, citing exotic Israeli and Russian-made hardware, counter that high-profile acquisitions will so improve China's anti-access capabilities that defending the island could prove costly. Chinese strategy, they correctly argue, is not to defeat the American military but to put Washington out of the fight by disabling its major platforms or simply deterring intervention altogether. Richard Fisher of the Jamestown Foundation, for example, argues that the PRC is already gathering the appropriate forces to attack successfully a carrier battle group in the vicinity of Taiwan (“Sink an aircraft carrier, win the war,” goes the PLA mantra).<sup>46</sup> Realistically, though, supersonic ship-killing cruise missiles and other devices will only lengthen the time it takes U.S. forces to “kick down the door.” Without trivializing the deadly threat such weapons pose to American surface platforms and their crews, the U.S. ability to operate from ever-greater distances and its unmatched battlespace awareness, to say nothing of forthcoming ballistic and cruise-missile defenses, mean that Washington could spoil a Chinese blockade even if it could not prevent one.

There is consensus even in Beijing that Washington can beat the PLA in its own backyard. Dedicated students of U.S. warfighting capabilities and doctrine, Chinese officers have carefully observed as American forces have repeatedly proven their conventional superiority in diverse, hostile environments. If

Operation DESERT STORM convinced the PLA that it lags decades behind, the Serbia and Afghanistan air campaigns, with their historic rates of precision sorties, real-time targeting, and casualty-free operations, convinced the leaders of the PLA components that the capabilities and doctrine gap is growing (as must have Operation IRAQI FREEDOM as well). Several Chinese officers have warily noted how much U.S. capabilities grew in the brief seven years between the Persian Gulf War and the air campaign over Kosovo. Tellingly, two of the PLA's three competing schools of thought—"Local War under High Tech Conditions" and (especially) the "Revolution in Military Affairs"—argue that the United States is decades ahead of the PLA in military technology.<sup>47</sup>

The gap is nowhere more evident than in China's lagging intelligence, surveillance, and reconnaissance capabilities, which cannot yet help China "see over the horizon," a skill the PLA must master if it hopes to employ its new antiship cruise missiles at their intended ranges. China is trying to close the divide by focusing on several other niche capabilities to exploit U.S. weaknesses, but forward-looking war games consistently prove that the narrow tactical advantages it may achieve with, say, advanced "double digit" surface-to-air missiles will be increasingly insufficient to keep American forces at bay.

#### NO TIME LIKE THE PRESENT

Current trends make it increasingly difficult for China to intimidate Taiwan, let alone make good on vociferous invasion threats. The United States is steadily strengthening its projection capabilities, and Washington (both the White House and Congress) is rekindling its "tropical island love affair." At the same time, Taiwan's voters have all but divorced themselves from the idea of a peaceful merger; years of mainland strong-arming and Hong Kong's record-high unemployment and political woes—including conspicuous human rights violations and a reversal of democratic gains—have largely eroded what little public support remained for sincere one-China negotiations.<sup>48</sup> Average Taiwanese citizens, indications are, want the status quo—probably because of the political and economic risks associated with joining the authoritarian regime, but also because most were born and raised in a self-determined Republic of China. Little is expected to change on these fronts any time soon. Washington's basic support for Taiwan is as calculated as it is bipartisan, a strategic decision based on long-term interests that cannot willingly be ceded to a would-be regional aggressor. Entrepreneurial and independent minded, today's Taiwan appears equally predisposed to de facto independence, unencumbered by some of its grandparents' lingering romantic fantasies of a China united under a Nationalist banner. Chinese foreign and defense policy is as likely to remain static, with Jiang's continued control of the People's Liberation Army through the Central Military

Commission ensuring a continuation of China's current strategy for reabsorbing Taiwan.

Indeed, China's apparent decision to forgo an amphibious invasion capability in favor of a blockade force suggests that a direct attack is not even under consideration. The Pentagon's latest assessment of Beijing's cross-strait military options says that China "likely would encounter great difficulty" conducting an amphibious invasion throughout the remainder of the decade without a major shift in national priorities.<sup>49</sup> A buildup of amphibious capabilities would necessarily be at the center of such a reallocation effort, but there is little discussion in Chinese strategic literature of a need to develop such capabilities and even less activity on the procurement side. In fact, despite its multiplying defense budget, the Chinese navy has demonstrated only nominal interest in acquiring the troop and cargo ships necessary for any large-scale amphibious assault.

By one academic study, China's aging amphibious assault fleet includes a mere fifty ships with full displacements of a thousand tons or more, with only ten over two thousand and none over 4,800. Moreover, these modest numbers appear to have already peaked; projections nearly halve the fleet's amphibious inventory by 2010.<sup>50</sup> To be sure, hundreds of smaller military and civilian craft could be launched on short notice from Chinese riversides and makeshift ports, but such small craft, even if they managed to traverse the choppy 115-mile waterway, could not transport armaments or men in sufficient numbers to breach Taiwan's vicious air and land defenses. By most informed estimates, China could get one reinforced infantry division of fifteen to twenty thousand troops to the shore, and another division of paratroopers over the island—far short of the estimated three hundred thousand troops necessary to take and hold a beachhead.<sup>51</sup> A slightly more generous appraisal by a well-briefed congressional commission says China can move two divisions by sea at best and that its capability to insert airborne forces is limited to one of its three divisions at a time.<sup>52</sup>

Meanwhile, Beijing is pouring resources into blockading tools. In addition to the fifty new short-range ballistic missiles a year opposite Taiwan, the PLA is replacing its aging liquid-fueled DF-3 intermediate-range ballistic missile with the solid-propelled, mobile DF-21.<sup>53</sup> It is also spending a large number of *yuan* on a strategic modernization project that includes the development of land-mobile ICBMs as well as a submarine-launched version, the Julang 2 "Great Wave," for the PLAN's forthcoming ballistic-missile submarine—all key elements in a survivable and, thus, more credible nuclear deterrent.

China's rapid succession of conventional purchases has been no less impressive. Beijing's \$1.6 billion agreement to take prompt delivery of at least eight more Project 636 Kilo diesel-electric submarines fitted with the Klub-S antiship cruise missile system—its 186-mile-range comparable to a carrier battle group's

defense radius—moves the PLAN's projection capabilities well beyond what its troubled Song (Type 039) program promised alone.<sup>54</sup> Taiwan has decided to acquire as many diesel models from a yet-undetermined source, but all of China's eight submarines are scheduled to be delivered to the PLAN before 2010, the earliest that Taiwan's first modern diesel-electric submarines are expected to reach initial operating capability.<sup>55</sup> With an appreciably lower price tag (five to six billion dollars) than comparable submarines the ROC navy might ultimately buy, the Kilo purchase guarantees more defense planning and spending woes for Taipei.

The PLA budget has been climbing at a double-digit rate for twelve consecutive years and will, the CIA judges, double by 2007.<sup>56</sup> In contrast, Taiwan's sustained recession has produced draconian defense cuts. By Taipei's own account, defense spending as a share of the total budget has been halved over the last decade, dropping from almost a third of all government spending in 1991 to an anemic 16.5 percent in 2002.<sup>57</sup> The spending debate in Taiwan's Legislative Yuan, heated and frequently ill informed, reveals a parliament all but unwilling to boost defense outlays. Predictably, the opposition Kuomintang and People First Party appear committed to legislative obstructionism, but even President Chen's own party cannot be counted on to fund urgent modernization and readiness projects. History suggests that Taiwan will ultimately find the wherewithal for defense programs the United States deems critical to its security (as evidenced by the tortured but ultimately successful *Kidd*-class destroyer purchase), but in the short term the Republic of China has clearly fallen behind the mainland's aggressive acquisition timetable.

The poor state of U.S. readiness in this decade might similarly add to the attractiveness of an early Chinese blockade gamble. Taiwan's combat preparedness has become notoriously bad, and U.S. readiness levels, though not yet dire, have badly suffered from a war on terrorism that will undoubtedly last through the decade.<sup>58</sup> A heavier special-operations and intelligence-gathering mission load since the 11 September 2001 attacks, for example, has strained the Navy's attack submarines, forcing the fleet to jeopardize their longevity and effectiveness by skimping on critical maintenance and training.<sup>59</sup> The global war on terrorism has increased the demand for intelligence-gathering missions by attack submarines by upward of 30 percent, and dwindling numbers will remain a problem for years to come even with more *Virginias* (at \$2.3 billion apiece).<sup>60</sup> Notwithstanding slightly higher procurement rates, the Department of the Navy estimates that the submarine fleet will stay flat at the 1997 QDR-recommended level of forty-five to fifty-five compared with the target of sixty-eight set by a 1999 study for the Joint Chiefs of Staff, further impeding the Navy's ability to execute blockade-busting campaigns reliably and quickly.<sup>61</sup>



The attention of the U.S. military and its civilian leadership is understandably focused on the Middle East. Emergency and supplemental spending bills are the norm today and for the foreseeable future, redirecting money to maintain high operation tempos and fill empty precision munitions bins at the expense of basic naval operating funds.<sup>62</sup> The U.S. government may not be so distracted from East Asia that its vital interests there suffer, but a costly, long-term war on terrorism, like the one President Bush publicly predicts, and a drawn-out occupation of Iraq could ultimately lead to even riskier readiness gaps. Before stepping down from the Pacific Command, Admiral Blair testified that the Navy's readiness levels, while generally improved since 2001 thanks to supplemental funding, continue to suffer, particularly among aviation units and aging surveillance aircraft, which had delivered "dangerously low . . . collection rates of required intelligence information" in his domain.<sup>63</sup> The full toll may not be felt for several more years, but U.S. forces will nevertheless remain more susceptible to readiness problems than they would have under a peacetime engagement strategy.

As U.S. readiness and force structure issues entice China to act early, so might a perceived cruise missile imbalance. At present, American surface ships have no effective defense against the Sunburn and Yakhont, both of which travel at supersonic speeds and execute terminal maneuvers designed specifically by Russian companies to overcome U.S. naval defenses.<sup>64</sup> Currently, American surface ships rely on the Standard Missile 2 and the NATO Sea Sparrow for cruise missile defense at long ranges, and thereafter on the Phalanx Close-In Weapon System and the rolling-airframe RIM-166.<sup>65</sup> All of these systems would have difficulty detecting and engaging China's sea-skimming Sunburns and Yakhonts, which at Mach 2.5 are nearly three times as fast as the American Tomahawk.<sup>66</sup> The Navy is working to plug this vulnerability, but the prospective solution, the developing Evolved Sea Sparrow Missile—launched from the Aegis destroyers' Mark 41 Vertical Launch Systems—will take time. The Raytheon-led international effort holds considerable promise (having already been successfully tested against a supersonic target drone) but is scheduled to undergo operational testing with the U.S. Navy only in 2003 and will not yield a deployable system until 2005 at the earliest.<sup>67</sup> Beijing could prove unwilling to squander the military advantage it will enjoy in the meantime, at least if it can overcome its own intelligence, surveillance, and reconnaissance problems.

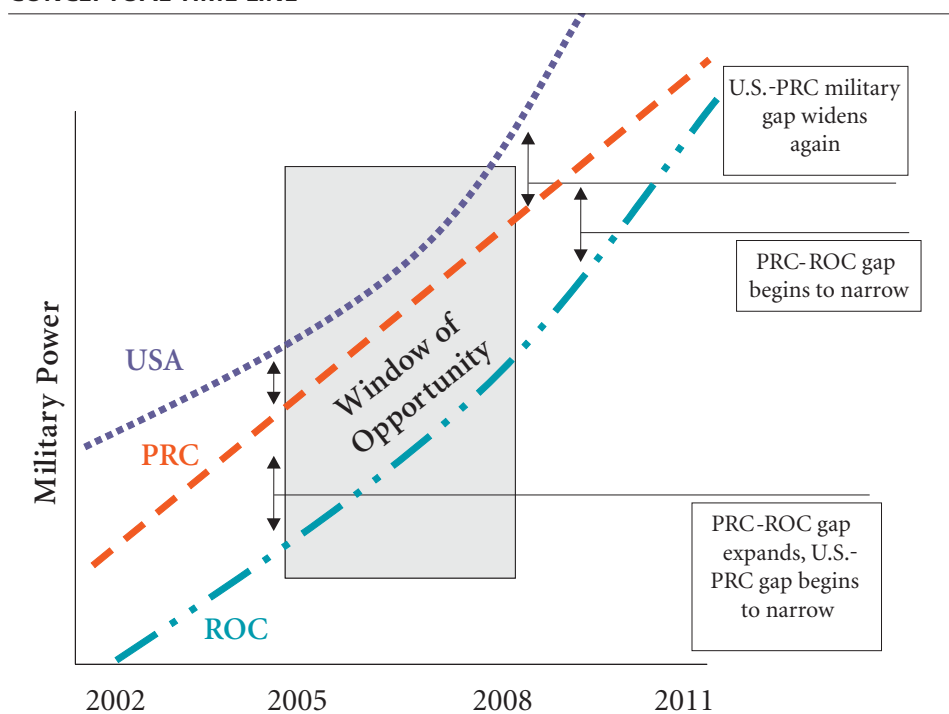
In a similar vein, Beijing might feel under pressure to act before the United States deploys a national missile defense system that might be effective against as many as a hundred incoming nuclear warheads. New strategic delivery systems are expected to give China a reliable second-strike capability by the end of the decade, but a more aggressive U.S. missile defense program, supported by

consistently higher spending, could give Beijing pause in a crisis. Optimistic estimates suggest a fully capable missile defense system might be available as early as 2008.<sup>68</sup>

Also, the final system could be even more effective than originally envisioned, because the potential benefits for testing that come with the U.S. withdrawal from the Anti-Ballistic Missile Treaty have yet to be realized. Further complicating China's deterrence strategy is Washington's leaked intention to consider using tactical nuclear weapons in a Taiwan Strait war.<sup>69</sup>

All of these factors conspire to improve China's offensive chances in the next decade. More specifically, as shown in the figure, China's military power will peak relative to that of Taiwan and the regional forces of the United States sometime between 2005 and 2008. In this window, improved naval and air capabilities—including ballistic and cruise missiles—will give China its best chance to effect Taiwan's acquiescence. After 2008, Taiwan's expected defensive gains and the seemingly exponential military advances of the United States will preclude a successful attack on the island.

#### CONCEPTUAL TIME LINE



#### DISCOURAGING AN ANXIOUS ADVERSARY

With all these trends warily in mind, Beijing will likely take action before its odds become too long, even without assurance of victory (see the table below). To prevent Chinese aggression, the United States should institute closer military

ties with Taiwan, more cautious dealings with the PLA, and a strengthened naval and air presence in the western Pacific, all the while taking sensible, complementary nonmilitary measures. The argument that such a “pro-Taiwan” policy will exacerbate cross-strait relations, self-fulfilling a war prophecy, is flawed; it contradicts the lessons of history and recent experiences with the PRC.

First, as recommended by the bipartisan, congressionally mandated U.S.-China Security Review Commission, the Bush administration should continue to expand its military dialogue with Taiwan.<sup>70</sup> These important exchanges should enhance the interoperability of Taiwan’s command and control systems for air and surface engagements, antisubmarine warfare, and eventually, theater missile defense—key elements in a Taiwan antiblockade strategy. Issues such as doctrine and force planning should also be covered, with meaningful mentorships at the highest levels. The 2003 Defense Authorization Act requires the Pentagon to report on the feasibility and advisability of conducting combined operational training with, and exchanges of general and flag officers between, the U.S. and Taiwanese forces.<sup>71</sup> If ultimately accepted and properly executed, such an initiative could make Taiwan less dependent on the United States for its immediate security while establishing interoperability in case Washington is forced to stop a Chinese attack on the island. Given the U.S. military’s multiplying resource commitments and defense responsibilities, such a plan is morally compelling as well as strategically sensible. If President Bush means to do “whatever it takes” to help defend the island democracy, the people who live there should be as capable as they are willing to do the same alongside American forces.

Giving Taiwan the ability to defend itself also means reestablishing its slipping qualitative military edge. Taiwan has traditionally maintained a conventionally advanced, if outnumbered, defense force; however, a lopsided PRC-driven arms race fueled by destabilizing Russian and Israeli sales is quickly eroding this advantage. Added to the bargains that have brought hundreds of advanced land-attack Sukhoi fighters to China since the late 1990s, a \$1.6 billion deal with Russia to buy several dozen Su-30MKK Flanker naval fighters equipped with the X-31 supersonic antiship missile does little to allay Taiwanese fears that its maritime lifeline and the protective U.S. Navy are being targeted.<sup>72</sup> These long-range multirole fighters could be particularly effective against regionally deployed aircraft carriers or eastern Taiwan’s less-defended air and naval facilities.

The robust 2001 arms package and streamlined acquisitions process for Taiwan proves that the Bush administration is committed to buttressing the islanders against attack, but more can still be done. The State Department, for example, would have done well to respond to the latest Su-30 sale by giving

Taipei direct control over its AIM-120C beyond-visual-range air-to-air missiles, which could help blunt a Sukhoi-led attack; yet the ROC air force complains it is no closer to receiving the 120 advanced missiles it bought from Raytheon over two years ago.<sup>73</sup> Apparently to avoid Chinese protests, the State Department insists on holding onto these first-line weapons unless a conflict erupts; however, test-firings of the AA-12 Adder, a Russian-made missile comparable to the AIM-120C, strongly suggest that this weapon is now operational in the Chinese air force (which has possessed the weapon since 1999).<sup>74</sup>

2004–2010	After 2010
PRC takes delivery of at least eight Kilo 636 submarines. Taiwan has limited undersea warfare capabilities.	Taiwan takes delivery of up to four diesel submarines; has expanded undersea warfare capability.
Chinese surface warfare advantage over Taiwanese navy; potential threat to U.S.	Improved U.S. and Taiwanese ship defense systems.
Taiwan has limited ballistic missile defense.	Taiwan likely to have layered theater ballistic missile defense.
U.S. homeland vulnerable to strategic missiles.	U.S. has operational national missile defense.

The implications of the air-to-air missile imbalance should not be understated. A computer simulation–aided study by California’s RAND Corporation found that an unanswered AA-12 capability would give China an overwhelming advantage over the ROC air force. The U.S.–China Security Review Commission confirms that an Adder-armed Sukhoi fighter has an advantage over Taiwan’s Mirage 2000-5 equipped with inferior MICA missiles.<sup>75</sup> The AIM-120Cs are doing little to protect the ROC or deter China warehoused in the United States.

Washington is also reluctant to sell Taipei the Aegis destroyers it craves, in part because of clamorous PRC objections but mainly because the White House thinks it can thereby tease out of Beijing concessions on cross-strait security and nonproliferation matters. Using the destroyers as bargaining chips sounds diplomatically clever, but China’s frenetic missile buildup and unending missile technology transfers to states like Iran all but confirm Beijing’s unwillingness to reform its behavior.<sup>76</sup> The Aegis ships, then, are yielding no appreciable diplomatic leverage and might as well go to Taiwan while they can still make a positive difference.<sup>77</sup>

The United States also needs to overhaul its military relationship with China, especially with respect to a parade of “confidence building measures” that have disproportionately benefited Beijing over the past decade. Before the White House halted military-to-military ties after the EP-3 was forced down and its

crew detained in April 2001, PLA officials attended elite American military schools and enjoyed access to sensitive facilities, platforms, and force structure information. By contrast, perfunctory U.S. visits to Chinese bases, ships, and schools yielded few real insights into PRC capabilities or thinking, largely because of Beijing's apprehension about revealing weaknesses. Drawing on its own negative experiences with what it calls "extensive" Chinese secrecy, the Pentagon has cautioned policy makers about wide knowledge gaps, conceding that "since the 1980s, U.S. military exchange delegations to China have been shown only 'showcase' units, never any advanced units or operational training or realistic exercises."<sup>78</sup> Similarly frustrated, the U.S.-China Security Review Commission complains that "whether in the area of threat reduction, budget discussions, or military to military exchanges, the Chinese pattern has been to absorb as much information as possible and share as little as possible."<sup>79</sup>

The moratorium has since been lifted, but it is as yet unclear if Washington will demand equal access in the future. Military exchanges should continue, but at a slower pace, as the security commission recommends, and only if confidence-building measures and other ties are "strictly based on the principles of reciprocity, transparency, consistency, and mutual benefit."<sup>80</sup> Furthermore, military-to-military ties are useful only so far as they serve U.S. interests; annual Pentagon "cost-benefit analyses" would allow the White House and the Congress to judge such programs on their true merits.

Most importantly, the United States should adopt a strengthened Pacific presence and response doctrine that leaves little doubt in Beijing over Washington's will and ability to interject itself during a cross-strait crisis. This could be achieved most traditionally (and inexpensively) with better regional basing in the Pacific theater, where long distances between current bases and operating areas strain resources. Added to the Guam-based attack submarines, an additional carrier battle group homeported in Japan or Guam would ensure access to the area and make manifest the U.S. ability to defend Taiwan despite myriad global commitments. Aircraft carriers and guided-missile destroyers serve as constant reminders of U.S. power-projection capabilities, while submarines—which potential opponents must presume to be present, even if undetected—make a similar point in a subtler way.

The United States can no longer afford to leave the Taiwan Strait without an aircraft carrier nearby. As one RAND study shows, the adequacy of U.S. Air Force access near that hotspot is uncertain at best because of the distance from South Korea and Japan, and because of those states' unwillingness to avow open support for the United States should it come to the aid of Taiwan in a confrontation with China.<sup>81</sup> New operational concepts like the Global Strike Task Force, which emphasizes expeditionary dispersed operations, would help mitigate the

Far East's "tyranny of distance."<sup>82</sup> However Washington ultimately decides to expand and deepen its footprint in the western Pacific, the Pentagon should use its improved presence to affirm the readiness and willingness of the United States to counter strong-arm tactics in the area. In the face of a threatening missile test, naval exercise, or mock combined-arms invasion, forward demonstrations will clarify American stated foreign policy interests and thereby minimize misunderstandings and the risk of strategic miscalculation on both sides of the strait.

This fundamental approach to enhancing Taiwanese security is not one of military "containment," which would necessitate many more regional air bases and naval deployments as well as a dramatic expansion of relationships with nations like Vietnam and the Philippines. Neither does it preclude such nonmilitary measures as tighter dual-use export controls and attempts to curb or negate Russian, Israeli, German, and French military sales to Beijing. All such basic initiatives—military, diplomatic, and economic—pursued in tandem, would help discourage Beijing from using force to achieve its perceived destiny. They would also regularly remind Washington that peace in the Taiwan Strait is far from inevitable and deserves its uninterrupted attention. First of all, however, U.S. civilian and military leaders must dismiss the fatally flawed theory that time is on China's side in the struggle over the strait and recognize that the real danger of a PRC attack is in this decade, when Taiwan is most vulnerable, not in the next. Only then will Washington and Taipei act and plan according to a shorter, realistic time line.

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## IS THE U.S. NAVY BEING MARGINALIZED?

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All who have gone down to the sea appreciate the various roles that seapower plays in our nation's defense. Going back to Alfred Thayer Mahan's day, that role was sea control—the ability to use the oceans to one's advantage and to deny the use of them to opponents. Shortly after Mahan, the first rudimentary projection of power ashore by amphibious assault was added. During World War II, the projection of power ashore with aircraft and guns became another major mission of navies; this has since expanded to include guided missiles. With the advent of the nuclear age, navies also came to assure strategic nuclear retaliation as the cornerstone of nuclear deterrence. Today a new mission may be emerging, that of defending the homeland or other land areas against attacks by missiles through space.

### *Declining Missions*

Setting aside homeland defense for the moment, the other four missions are today of lessening importance to our country's security.

**Strategic Deterrence.** At the peak we had forty-one strategic ballistic missile submarines (SSBNs). We are now approaching eighteen and probably going to ten. In part that is true because of the demise of the Soviet Union. It is also in part because we are beginning to recognize that the prime virtue of the SSBN, its invulnerability, has never been as important as many of us who have written on this subject have contended. This change of mind results from a realization that the threat of even only a few retaliatory nuclear detonations is sufficient to deter anyone. That is because any would-be nuclear aggressor must assume the worst, which is that we would retaliate by attacking his cities. Would the Russians or even the Chinese, let alone ourselves, be willing to lose ten, or five, or even two

major cities in the name of initiating and “winning” a nuclear war? Thus, even if we had only the more vulnerable intercontinental ballistic missiles (ICBMs) and no SSBNs at all in our nuclear arsenal, we would still have an adequate strategic deterrent. That would be the case even were some other nuclear power to acquire many more nuclear weapons than we. No such power could assume that any pre-emptive first strike it undertook would be 100 percent successful—that is, that there would be no nuclear retaliation. There would always be errors of targeting, missiles that failed entirely, missiles that were inaccurate, and human errors in execution. It all adds up to what Clausewitz described as “friction” in war. So a U.S. strategic nuclear deterrent with only ICBMs should suffice. Thus, the Navy’s role in this area is going to be looked at more critically, and this mission of the Navy will be seen as less critical to the country than it once was.

***Sea Control.*** Sea control is the most fundamental mission of the Navy, because the country cannot thrive in peacetime without it and cannot fight overseas in wartime in any sustained way without it—and no other military service can perform it. Today, though, there is no challenge to our control of the seas. The once formidable sea-denial capabilities of the Soviet Navy have dried up. Starting from the low point they are at today, it is unlikely they could be rebuilt in less than two decades. The Chinese may have aspirations to challenge our use of the seas in their region of the world, but they also are several decades from being able to mount such a challenge. Smaller navies with diesel submarines, fast patrol craft, land-based aircraft, and land-based missiles may be able to make our use of littoral waters more costly than we would like, but not to deny it to us. In this atmosphere the Navy is going to have a difficult time obtaining funding for sea control in the foreseeable future. It is also going to be difficult to motivate personnel to train against a nonthreat.

***Power Projection Ashore by Amphibious Assault.*** The last opposed amphibious assault was made in 1950 at Inchon. We planned one at Wonsan in 1951 and another at Kuwait in 1991; both came a cropper due to mines. Today it is difficult to imagine where the United States might want to conduct a major opposed amphibious assault in the next twenty years or so. China seems a possibility, but one has to wonder if the United States would ever risk placing a major force ashore in a country as vast as China and one with over a billion people, some three million of whom are under arms. After fifty-two years of nonuse, the mission of major amphibious assault is not going to draw a great deal of support or money. What can be justified is the capability to put troops ashore in remote areas reasonably quickly, either by helicopter assault or assault across a beach, in modest numbers and against modest opposition.



*Power Projection Ashore by Bombardment.* This is a mission of expanding capabilities. Guns already reach far inland and almost certainly can be made to go very much farther; precision-guided missiles can be launched from submarines, ships, aircraft, and unmanned aerial vehicles. All except guns played a role in Operation ENDURING FREEDOM in Afghanistan. All will almost certainly have roles to play in any future conflict. The Navy would do well today, though, to take note that the U.S. Air Force dropped a majority of the munitions in Afghanistan, though it had to go halfway around the world to do it because there were no good bases. In short, land-based airpower has demonstrated a very long reach and quite short response times under very taxing circumstances. In contrast, naval airpower may find its response time lengthened. Today the Navy has a fleet of about three hundred ships but is procuring only enough new ones each year to sustain a fleet of about 180 to two hundred. If the Navy does drop down that far, there will be insufficient ships to ensure that it can be quickly within range of unexpected trouble spots around the world. If the Navy cannot get there first, it will not be the instrument of first choice in such situations. Today, though, there are areas where only the Navy can bring shorter-range, tactical airpower to bear quickly, but the melding of long-range bombers with tactical missiles is creating competition even here. Recent reports indicate there are plans to upgrade the fleets of B-1, B-2, and B-52 bombers to reach targets almost anywhere in the world. This is certainly not to say that naval air, missile, and gun power will not be in demand for a long time to come. It is to say that the Navy's traditional advantages with these weapons are diminishing.

As noted earlier, the Navy may emerge into a mission of defense of land areas through the interception of intercontinental ballistic missile attacks. It is far too early to tell whether this mission will in fact mature or whether it will become such a major one as to justify additional forces. With the fleet declining in size, however, it would be difficult for the Navy to take on this additional mission.

### *An Altered Relevance*

Why, though, with the exception of the possibility of missile defense, are the Navy's missions less relevant to national needs today than during the Cold War? In part this is because advances in technology are making other systems more competitive. In part it is because changes in the global environment have radically altered the need for military forces of all types. The relevance of the Army's heavy armored forces, for instance, has been questioned. In the 1991 Gulf War we manhandled one of the largest tank forces in the world with hardly a scratch on our own tanks. The Air Force, for its part, finds itself in a position with respect to air superiority analogous to the Navy's in regard to sea control—there just is not much opposition today that can tangle with it in aerial combat. In short, all the

military services are facing a need for “transformation,” to use the current jargon. If the Navy is to play the best role it can for our country it needs to examine what transformation means for it, mission area by mission area.

**Strategic Deterrence.** We will not, and should not, forsake the submarine-based deterrent entirely. It is psychologically important for the country to feel assured that its strategic nuclear forces will never be so vulnerable as to endanger the country. It is also prudent to err in the direction of safety when the consequences of making a mistake could be so high. Also, should deterrence fail, we would want to have a reasonable retaliatory capability available. Still, we also must recognize that the SSBN has several disadvantages. One is that the cost per deliverable warhead is high, and it will be especially so if we eventually succeed in reducing nuclear arsenals to the low hundreds of warheads.<sup>1</sup> We would not place all those warheads in one SSBN, but it would be very expensive to maintain SSBNs with only a handful of warheads on each. Also, if we do work our way down to a low number of total warheads, numbers of warheads and their condition of readiness may well be controlled by an arms control treaty—we would be anxious to know for certain what other people have, and they would want to know what we have. It is difficult to count numbers and observe readiness in a submarine hiding deep in the sea. In any case, however, we do not require more than one or two SSBNs at sea with two hundred to four hundred warheads to intimidate any potential nuclear aggressor. In time we could reduce the cost of this element of deterrence by replacing some of the ICBMs in our SSBNs with conventional cruise missiles and giving the submarines a dual mission. Alternatively, if each attack submarine carried one or two cruise missiles with nuclear warheads, we would have plenty of assured deterrent out at sea at all times without having to dedicate SSBN platforms solely to that role.

**Sea Control.** As noted above, as far as the Navy’s sea control, the Army’s armored warfare, and the Air Force’s air superiority are concerned, the traditional forms of threat have all but disappeared and will not reemerge for the foreseeable future. Still, it would be foolhardy to expect these conditions to continue indefinitely. Since at least the battle of Salamis in 481 B.C., nations have attempted to deprive other nations of the use of the seas. The issue for the Navy, then, is how to sustain sufficient sea control capability to be able to deal with the possibility of a revived threat of some sort to the use of the seas. One approach is simply to resolve to retain some modest level of training and equipment against the traditional threats, despite the cost. That is easier said than done. For instance, in “Sea Power 21,” the Chief of Naval Operations recently revised the wording of the Navy’s missions, apparently to focus them more directly on impacting wars on and over land.<sup>2</sup> This new doctrine includes three new missions, “Sea Shield,”

“Sea Strike,” and “Sea Basing.” Sea control may be subsumed within these three new categories, but it is difficult to tell.

Perhaps the best way to deal with the sea control dilemma is a strong emphasis on discerning what the next threats may be and how to counter them. For instance, one near certainty is that traditional antisubmarine and antiair warfare will not suffice to keep our ships afloat. One new threat to be countered is that of terrorists attempting to drive our ships away from overseas deployments by harassing them whenever in port, as with the USS *Cole*. The development of a mobile defensive perimeter needs priority attention. Another potential threat is a cruise missile, or even ICBM, launched from land and targeted at our larger ships at sea by satellites. We will need far greater capabilities in antimissile defenses than we have today; bringing them into being should be a high priority for research and development. Also, as part of better defensive capabilities, we will likely want to move more of our cruise missile punch under the surface of the seas—that is, into submarines. Analysis of the trade-offs in costs, capabilities, and vulnerabilities of surface ships and submarines for launching cruise missiles in a future threat environment is a vital need. Still another concern must be with our training and educational establishments, which must remind our officers that the core mission of any navy will always be sea control, even if the challenge is not great at a particular time.

***Power Projection Ashore by Amphibious Assault.*** As the Navy shrinks, the amphibious force, with its rather limited mission, is bound to decrease in size, probably substantially. The first units to go should be those having the primary role of supporting major, division-scale assaults. For instance, large command ships are not needed for smaller assaults, and the large staffs that go with them could be trimmed down. The last amphibious units to go should be those capable of a second mission of projecting power ashore by bombardment. As we come to rely increasingly on aircraft capable of vertical and short takeoffs and landings, such as the Marine Corps’s V-22, and unmanned aerial vehicles to deliver ordnance ashore, amphibious ships with small flight decks could operate as small aircraft carriers. The Chief of Naval Operations recently indicated that the Navy and Marine Corps are moving in this direction, creating “expeditionary strike groups” from what have been amphibious ready groups. These groups will be capable of littoral power projection by either assault or bombardment. Ideally, this move is a precursor to making the Navy the fixed-wing tactical air force of the Marines, with substantial savings over the present practice of maintaining two separate air establishments. Still another point to remember in the transformation of projection forces is that mentioned earlier with respect to amphibious assaults aborted because of mines. In those instances, mines were

employed successfully by powers that—like our potential opponents today—had negligible naval forces. Effective ways to detect and sweep mines have eluded us for decades. It is time for a full-scale research effort to get on top of this problem.

***Power Projection Ashore by Bombardment.*** Sea Power 21 calls on the Navy to be ready to strike at a moment's notice anywhere. That is a tall order for a shrinking fleet. There are four approaches to stretching the Navy's resources for attacking land targets: obtaining more funding, building less expensive ships and aircraft but more of them, getting as much dual use as possible out of ships and aircraft having other primary missions, and getting more punch out of existing forces designed for the mission.

As for the first option, increased funding, it is difficult to forecast whether the Navy's budget will increase substantially. Many of us would have thought it improbable that military funding would stay as high as it has after the end of the Cold War. Still, it would be not only problematic but even dangerous to bet on sizable increases in the next decade.

The second option, less expensive but more numerous ships and aircraft, fits well with the trends in both offensive and defensive military technologies. The day of large aircraft carriers with large numbers of high-performance aircraft is simply drawing to a close. Ninety percent of the munitions dropped on Afghanistan were precision guided, up from 10 percent in the Gulf War just a decade earlier. Remote sensors will see targets better than pilots can, and remotely controlled precision weapons will hit targets more accurately. In time more and more of the precision weapons will be launched at long ranges from their targets, or from unmanned aerial vehicles, in order to minimize the exposure of pilots. With more accurate weapons, the ordnance-carrying capacity of the large carrier will no longer be as important. On the defensive side of the technology coin, we must recognize that technologies that make our forces more lethal will be available in time to others. When opponents acquire remote sensing and precision, long-range targeting capabilities, as they are bound to do, the huge detection signature of the hundred thousand tons of steel in one of today's aircraft carriers will be a tremendous liability. It is argued that such liability is offset by the defensive capabilities of larger ships. Those defensive systems (like directed-energy weapons) are themselves shrinking in size, however.

The third option of more dual use of ships and aircraft also fits with the trends in technology. Small, less-vulnerable ships can carry much greater offensive punch than was possible just a few years ago. We need to distribute firepower: in expeditionary strike groups; in surface combatants and attack submarines loaded heavily with land-attack missiles; in surface combatants with

long-range, accurate guns; and in ballistic-missile submarines converted to conventional missile shooters. We should also revisit the concept of an Arsenal Ship as an inexpensive way to put firepower to sea.

Just as the means of projecting naval power ashore by bombardment are changing dramatically, the need for projecting naval power ashore is also changing dramatically. The requirement today is, and will be into the future, for quick response with limited force more than for response with massive firepower. The days of all-out “alpha strikes,” as in Vietnam, are behind us. Instead, as seen in Iraq, we are turning to precision-guided attacks with modest amounts of munitions and modest numbers of aircraft. What we are likely to confront tomorrow is the terrorist cell that is a target today but will be gone tomorrow; the rogue state that is about to obtain weapons of mass destruction or already has and is about to use them; the hostages who need to be rescued before they are taken deep underground; the coup against, or invasion of, a friendly regime that must be reversed before it becomes a *fait accompli*; or the need to respond to the use of weapons of mass destruction by anyone against anyone.

The fourth option, doing more with what the Navy has, brings up the network-centric concept of making information more universally available, thus optimizing the usefulness of the forces that can be brought to bear. The Navy has been netting ships together for combat effectiveness for decades. The issue today is to take maximum advantage of the ever-growing capabilities of information technology.

The demand for transformation of the Navy is urgent, because of the pace of both technological and geopolitical change. Military professionals are often accused of resisting change, and there is considerable evidence to support that charge. Today it is vital to prove that adage wrong. Battleships dominated naval warfare for about sixty years, and carriers for about the same. Our existing carriers will have plenty to do for the remainder of their operating lives, but a Navy built around these ships will not carry us into the emerging era of warfare any better than did the USS *Arizona* into World War II. To procure more large carriers today and expect them to be useful into midcentury is to be blind to reality.

Finally, today, much more than ever before, it is incumbent upon military professionals to promote transformation. The nature of the military-industrial complex, plus the breadth of congressional constituent interest in military procurement, bases, etc., will by themselves make forsaking the tried and true extremely difficult. Only if military professionals stand up and place the weight of their expertise and prestige behind radical change will there be a change.

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NOTES

1. See the author's "The Dilemma of Nuclear Weapons in the Twenty-first Century," *Naval War College Review* 54, no. 2 (Spring 2001), pp. 13–23.
2. First publicly introduced by Adm. Vernon Clark, USN, "Sea Power 21: Operational Concepts for a New Era," remarks delivered at the Current Strategy Forum, Naval War College, Newport, R.I., 12 June 2002.





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## TRANSFORMING THE NAVY

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### Punching a Feather Bed?

*Peter J. Dombrowski and Andrew L. Ross*

*To change anything in the Na-a-vy is like punching a feather bed. You punch it with your right and you punch it with your left until you are finally exhausted, and then you find the damn bed just as it was before you started punching.*

FRANKLIN D. ROOSEVELT

**T**he Bush administration has made military transformation a central defense and national security objective.<sup>1</sup> It came into office declaring its commitment to profound, potentially radical military change. Even while engaged in the global war on terror, preparing to go to war against and then fighting one rogue state, and deterring another, the U.S. military has been pressed to remake itself. Indeed, the threat of terrorism is said to demonstrate the need for transformation, and a possible war in Southwest Asia has been viewed by some as an opportunity to showcase the military's emerging transformational capabilities. While deployed across multiple theaters, the armed forces are to develop a coherent view of the future and to begin implementing the technological, doctrinal, and organizational changes necessary to meet future warfighting requirements. Moreover, this is to be done in a budget environment in which, despite dramatically increased defense spending, flexibility is limited by current operating expenses. By any standard, this is a tall order. Yet civilian officials in the Department of Defense continue to push the military to think more creatively and move more quickly. Individuals, programs, and services thought to stand in the way of building the "military after next" have been taken to task.<sup>2</sup>

The Navy claims that its challenges are particularly difficult. The fleet has shrunk. It is likely to shrink still further before it grows. Programmed recapitalization and modernization are thought to exceed the resources expected to be available. Operational requirements have dictated more frequent, and longer, deployments. Operating tempo has spiked. The fleet and resources are stretched

thin. Is now the time to transform, to introduce new platforms and force the naval acquisition system and the naval industrial base to adopt new business practices and achieve greater economies? For transformation proponents, the answer is a resounding "Yes."

Of course, some within the Navy had begun to think about the next Navy and even the Navy after next well before Governor George W. Bush was selected to be president. Over the last decade, the concept of network-centric warfare, which calls for a profound "shift from platform-centric operations to Network Centric Operations," gained gradual, if often grudging, acceptance.<sup>3</sup> Network-centric warfare, in the form of "ForceNet," is at the heart of "Sea Power 21," which was introduced in 2002 as the Navy's transformation vision. ForceNet is the integrating agent of SP-21's "Sea Strike," "Sea Shield," and "Sea Basing," which are to increase the Navy's capacity to strike deeply and sustain joint operations even in the absence of land bases, as well as to help protect both the American homeland and U.S. allies and friends against ballistic missiles and other threats. Intended as a comprehensive guide to naval transformation, Sea Power 21 also reflects an appreciation of the long-term demands of waging the war on terror and combating weapons of mass destruction, as well as of how the Bush administration is likely to employ military power.

We present here a four-part, interim assessment of the Navy's ongoing transformation project.<sup>4</sup> First, we provide the context for our assessment with a review of the administration's approach to transformation. Second, we describe Sea Power 21 and its network-centric-warfare underpinnings. In the third section we examine whether the Navy's vision of its future is indeed transformational and the extent to which the Navy is progressing toward its vision's promise. We conclude by evaluating the prospects for Navy transformation and by asking whether the force envisioned by Sea Power 21 will meet the nation's national security requirements in the coming decades.

## THE TRANSFORMATION IMPERATIVE

An array of joint and service transformation visions had been developed even before the Bush administration took office. *Joint Vision 2020*, like *Joint Vision 2010* before it, foresees a military able to dominate the full spectrum of military operations, from low-intensity conflict to major theater wars. Information superiority is to be the underpinning of "dominant maneuver," "precision engagement," "focused logistics," and "full-dimensional protection."<sup>5</sup> U.S. forces are expected to prevail over any and all military challengers by moving more quickly, hitting harder and more precisely, and when necessary, sustaining operations longer than potential adversaries.

Not only the Navy but the Army, Air Force, and Marine Corps have developed transformation visions. The Army's transformation project promises to deliver an "Objective Force" with a Future Combat System that will be responsive, deployable, agile, versatile, lethal, survivable, and sustainable.<sup>6</sup> The Air Force's *Vision 2020* promises "Global Vigilance, Reach and Power" through a full-spectrum aerospace force to control and exploit not only the air but also space.<sup>7</sup> Air Force assets are to be able "to find, fix, assess, track, target, and engage any object of military significance on or above the surface of the Earth in near real time."<sup>8</sup> *Marine Corps Strategy 21* and the Corps's "Operational Maneuver from the Sea" doctrine promise scalable, interoperable expeditionary forces at a high level of readiness.<sup>9</sup>

Since each service is attempting to exploit the opportunities presented by modern information technologies and is responding to the overarching guidance provided in such documents as *Joint Vision 2020* and the *National Military Strategy*, there are many commonalities across the individual visions. Each service claims, to one degree or another, to be expeditionary; even the Army is lightening its forces, in order to increase mobility and sustainability. Each vision also focuses on the ability to strike adversaries with a variety of weapons; no potential target anywhere in any environment—land, sea, air, space, or cyberspace—will not, in the end, be vulnerable to U.S. forces. Strike operations are to be enabled by "information dominance"—which, reduced to its essentials, means improving the intelligence available to all echelons, but especially shooters. A premium is placed on precision, speed, agility, flexibility, adaptability, and connectivity. Operations are to be conducted in parallel rather than sequentially. All of the services genuflect before the requirements for jointness and interoperability.

In 2001, the stakes were raised. A new administration took office proclaiming its commitment to transformation. Military transformation had emerged as an article of faith for the Bush team during the presidential campaign. In his September 1999 Citadel speech, then-Governor Bush called for "creating the military of the next century," seizing the opportunity "created by a revolution in the technology of war," moving beyond "marginal improvements," "skipping 'a generation of technology,'" and encouraging "a new spirit of innovation."<sup>10</sup>

In remarks at the Joint Forces Command in February 2001, the new president returned to the themes of his Citadel address:

We are witnessing a revolution in the technology [of] war. Power is increasingly defined not by size, but by mobility and swiftness. Advantage increasingly comes from information. . . . Our goal is to move beyond marginal improvements to harness new technologies that will support a new strategy. . . . On land, heavy forces will be lighter. Our light forces will be more lethal. . . . In the air, we'll be able to strike across

the world with pinpoint accuracy, using both aircraft and unmanned systems. On the oceans, we'll connect information and weapons in new ways, maximizing our ability to project power over land.<sup>11</sup>

Upon assuming office, the new secretary of defense, Donald Rumsfeld, moved quickly to initiate the "comprehensive review" of military strategy, structure, and procurement priorities promised by President Bush. Andrew W. Marshall, the director of net assessment and a longtime proponent of transformation, was tapped to lead a wide-ranging review of U.S. defense strategy.<sup>12</sup> Additional teams were formed to focus on transformation, conventional forces, nuclear forces, missile defense, space, crisis response, acquisition reform, and quality of life, among other issues.<sup>13</sup> An Office of Force Transformation, led by Vice Admiral Arthur K. Cebrowski, USN (Ret.), a leading advocate of network-centric warfare, was established. The services were directed by the Office of the Secretary of Defense (OSD) to develop transformation roadmaps. A Defense Transformation Guidance document was developed to accompany OSD's Defense Planning Guidance. These and other initiatives clearly signaled the importance of far-reaching military innovation to the Bush team.

The administration's commitment to transformation was formalized in the Defense Department's September 2001 *Quadrennial Defense Review* report. Even in the wake of the attacks of 11 September and the onset of the global war on terror, the secretary of defense continued to emphasize the importance of "the transformation of U.S. forces, capabilities, and institutions."<sup>14</sup> Transformation was once again proclaimed to be "at the heart" of the administration's "new strategic approach."<sup>15</sup> Indeed, a renewed sense of urgency was conveyed: "Transformation is not a goal for tomorrow, but an endeavor that must be embraced in earnest *today*."<sup>16</sup> Four transformation pillars—joint operations; experimentation; intelligence, surveillance, and reconnaissance (ISR); and research and development and selective recapitalization—and a set of "six critical operational goals" were identified.<sup>17</sup>

Under Secretary of Defense (Acquisition, Technology and Logistics) Pete Aldridge has remarked that "transformation is a loose concept."<sup>18</sup> Yet administration officials have attempted to pin down the meaning of "transformation." The most prominent dimensions of transformation—technology, doctrine, and organization—were evident in the characterization of transformation provided in the 2001 Quadrennial Defense Review (QDR) report:<sup>19</sup>

Transformation results from the exploitation of *new approaches to operational concepts and capabilities*, the use of old and new technologies, and *new forms of organization* that more effectively anticipate new or still emerging strategic and operational challenges and opportunities and that *render previous methods of conducting war*



*obsolete or subordinate. Transformation can involve fundamental change in the form of military operations, as well as potential change in their scale. It can encompass the displacement of one form of war with another, such as fundamental change in the ways war is waged in the air, on land and at sea. It can also involve the emergence of new kinds of war, such as armed conflict in new dimensions of the battle space.*<sup>20</sup>

The administration's characterization of transformation suggests that re-making the armed forces requires more than routine, sustaining innovation. As the 2002 *Annual Report* explicitly recognized, transformation entails "discontinuous change," not merely the incremental change typical of modernization.<sup>21</sup> Risks are to be taken.<sup>22</sup> Transformation is to result in fundamentally new, rather than merely improved, technologies and weapons systems, doctrines, and operational concepts. Revolutionary rather than evolutionary change is the objective.<sup>23</sup> Marginal improvements in capabilities are to be rejected in favor of leaps ahead.<sup>24</sup> As indicated by the QDR's use of language evocative of a "revolution in military affairs," its discussion of transformation's "social" dimensions, its recognition of the necessity for "fundamental changes . . . in organizational culture and behavior," and the military's palpable concern about the administration's transformation agenda, the stage has been set for disruptive innovation.<sup>25</sup>

Even in the face of the military's increased responsibilities for homeland security, the demands of Operation ENDURING FREEDOM, the complexities of the broader global war on terror, and preparations for and then war against Iraq, the transformation imperative has remained among the highest priorities of the Bush administration.<sup>26</sup> The September 2002 National Security Strategy, for example, called for transforming the U.S. armed forces and other national security institutions to maintain and enhance American primacy.<sup>27</sup> The Bush administration, seemingly, has repudiated the Clinton administration's approach to transformation and embraced the approach of the 1997 National Defense Panel, which recommended "transforming the armed forces into a very different kind of military from that which exists today," for according "the highest priority to executing a transformation strategy," and for accelerating transformation.<sup>28</sup> Against this backdrop, the U.S. Navy and the other armed services have struggled to turn such nascent concepts as network-centric warfare from abstract exercises in strategic thinking into full-fledged transformation plans.

## THE NAVY TRANSFORMATION VISION

Publicly unveiled by the Chief of Naval Operations, Admiral Vernon Clark, at the Naval War College in June 2002, "Sea Power 21" is the most complete, and recent, depiction of the Navy's transformation vision.<sup>29</sup> It is a successor to . . . *From the Sea* and *Forward . . . from the Sea*, post-Cold War visions that profoundly reoriented the Navy away from blue-water fleet-on-fleet engagements to

projecting power ashore in the littorals.<sup>30</sup> Sea Power 21, however, is focused as much on *how* the Navy will fight in the future as on *where* it will fight. The offensive Sea Strike, defensive Sea Shield, and facilitating Sea Basing capabilities it calls for are to be integrated by ForceNet, which is to “network” the future Navy’s formidable capabilities. The inspiration for Sea Power 21’s emphasis on the force-multiplying, potentially transforming, effects of connectivity and networking is network-centric warfare, a concept of future warfare long advocated by former Naval War College president Vice Admiral Cebrowski.<sup>31</sup> In the form of ForceNet, network-centric warfare is embedded in Sea Power 21’s vision of how the Navy will “organize, integrate, and transform.”<sup>32</sup>

### *Network-centric Warfare*

For its proponents, network-centric warfare is the emerging vision of the future of war.<sup>33</sup> It is a vision driven by a particular understanding of the transformation of modern society from the industrial age to a postindustrial, or information, age at the beginning of the twenty-first century.<sup>34</sup> Advances in information technologies that have resulted in widespread socioeconomic changes are expected to revolutionize the conduct, if not the nature, of war.<sup>35</sup> In particular, the increasing use of networks for organizing human activities is touted as a means for reshaping the way American forces train, organize, equip, and fight.<sup>36</sup>

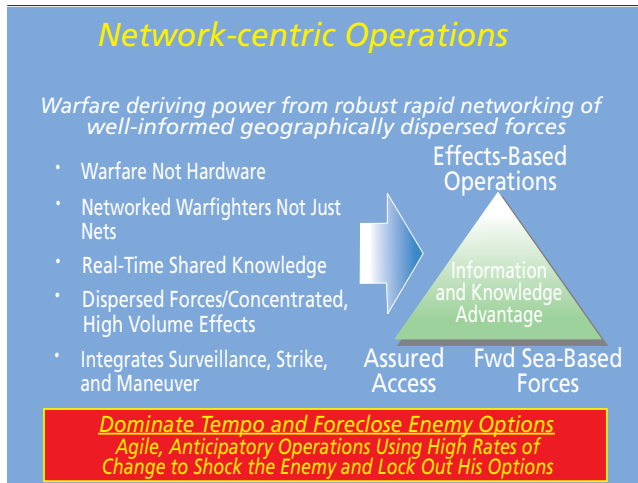
In brief, networks harness the power of geographically dispersed nodes (whether personal computers, delivery trucks, or warships) by linking them together into networks (such as the World Wide Web) that allow for the extremely rapid, high-volume transmission of digitized data (multimedia). Networking has the potential to increase exponentially the capabilities of individual nodes or groups of nodes and to render the use of resources more efficient. In theory, networked nodes have access not only to their own resident capabilities but also, more importantly, to capabilities distributed across the network. The loss of a networked node need not be crippling; in a robust network, its functions can and will be assumed by other nodes. Since networked nodes can share information efficiently, they can be designed individually as relatively simple, low-cost adjuncts to the network itself.<sup>37</sup>

The Navy and the other services have been developing, individually if not jointly, the capabilities for network-centric operations (NCO).<sup>38</sup> In a draft capstone concept paper, the Navy Warfare Development Command identified four NCO “pillars,” or supporting concepts: information and knowledge advantage, effects-based operations, assured access, and “forward sea-based forces” (see figure 1).<sup>39</sup>

The benefits of NCO to be provided by the pillars of information and knowledge advantage and effects-based operations include speed of command,

self-synchronization, advanced targeting, and greater tactical stability.<sup>40</sup> Netted sensors are to provide shooters and commanders with “unmatched awareness of the battle space.”<sup>41</sup> Within the battle space, war fighters are to be able to “self-synchronize” their activities to fulfill a commander’s intent by drawing upon

**FIGURE 1**



Source: NWDC, *Network Centric Operations*, p. ii.

a shared “rule set—or doctrine,” as well as a common operational picture (COP).<sup>42</sup> Self-synchronization is accomplished by devolving decision making downward to the lowest appropriate level, thus allowing war fighters to respond directly and quickly to tactical, operational, and even strategic challenges. “Fires” (munitions delivery) are to be employed in a framework of effects-based operations rather than of attrition-based warfare. Precision-guided munitions in conjunction with advanced ISR capabilities will

allow targets to be hit with greater economy—simultaneously rather than sequentially—greatly increasing the possibility of imposing disproportionate effects, particularly psychological ones, on the adversary. Tactical operations may thus achieve strategic objectives.

By geographically dispersing sensors, shooters, and their supporting infrastructure within an overarching network, U.S. forces will be able to achieve greater tactical stability—a favorable balance between survivability and combat power.<sup>43</sup> Fires, rather than forces, will be massed, and they will be delivered from beyond visual range. Ideally, effects-based operations, fueled by information and knowledge superiority, will enable U.S. forces to “lock in success and lock out enemy solutions.”<sup>44</sup> Smaller, lighter, faster, less complex, and less expensive nodes (i.e., platforms) linked by interoperable, highly redundant, self-healing networks will present adversaries with fewer high-value targets and improve the robustness of operations against a determined foe.

Implicitly at least, NCO is a joint vision that harnesses capabilities from all services; it is applicable to warfare on land, air, or sea.<sup>45</sup> That it is a Navy concept with naval origins, however, is evident in the two pillars that are more distinctly maritime: assured access and forward-deployed sea forces. “Assured access” refers to the ability of the U.S. armed forces to gain entry to and use both overseas infrastructure, such as ports and airfields, and the battle space itself, even when confronted by a capable and active adversary.<sup>46</sup> No sanctuary is to be ceded to the

opponent. It is the job of the Navy and the Marine Corps to enable and ensure access by follow-on elements of the Air Force and the Army—the heavier forces necessary to fight and win major theater wars. The Navy accomplishes this through the combat capabilities inherent in its forward-deployed presence assets (i.e., the ability to operate in the littoral). Since sea-based forces “do not rely on permissive access to foreign shore installations that may be withdrawn or curtailed,” they “furnish an assured infrastructure for additional joint forces.”<sup>47</sup>

The most robust form of NCW also features a wide variety of nodes (or platforms) that are to be smaller, lighter, faster, or less complex than current platforms. Unmanned vehicles, for instance, are to deploy sensors or serve as sensors, communications relays, and weapons platforms. In the view of its strongest advocates, NCW requires innovative design concepts such as small littoral combatants (a concept formerly known as “Streetfighter”), fast lift, and small-deck aircraft carriers. According to their logic, fulfilling the ultimate promise of network-centric operations requires less complex and less expensive network-tailored nodes/platforms that will facilitate self-synchronization and “swarming” tactics and increase tactical survivability.<sup>48</sup> Complexity is to be located on the web rather than on the node; the expensive platform nodes that populate the legacy force will be displaced by simpler, less expensive ones. In today’s Navy, platforms are networked via, for instance, the Cooperative Engagement Capability (CEC) and IT-21. In the network-centric Navy of the future, nodes will be tailored to network requirements from their earliest conception.

### *Sea Power 21*

Network-centric warfare, in the form of ForceNet, is “the ‘glue’ that binds together” Sea Power 21’s “three fundamental concepts”: Sea Strike, Sea Shield, and Sea Basing.<sup>49</sup> Integrated by ForceNet, the offensive and defensive capabilities of Sea Strike and Sea Shield and the operational autonomy of Sea Basing are to provide “unprecedented maritime power”—nothing less than “decisive warfighting capabilities from the sea.”<sup>50</sup> The development of these capabilities will be supported by three additional elements of Sea Power 21: “Sea Trial’s” innovation processes, “Sea Warrior’s” investment in people, and “Sea Enterprise’s” improved business practices. SP-21 is driven not by the asymmetrical challenges posed by regional or transnational threats but by a concerted effort to exploit (and thereby help preserve) the asymmetry inherent in U.S. technological preeminence;<sup>51</sup> accordingly, it is to provide “powerful warfighting capabilities” that “will ensure our joint force dominates the unified battle space of the 21st century.”<sup>52</sup>

The core operational concepts of Sea Strike, Sea Shield, and Sea Basing, the “operational construct and architectural framework” of ForceNet, and the three supporting concepts had all appeared earlier in the Department of the Navy’s

*Naval Transformation Roadmap*.<sup>53</sup> Beginning in June 2002, these concepts took the form of “Sea Power 21” in a series of speeches and articles by the Chief of Naval Operations and other flag and general officers.<sup>54</sup> Sea Power 21 represents a concerted effort to market as transformational the future capabilities sought by the Navy’s leadership, civilian and military alike. The array of capabilities envi-

sioned by the NTR and SP-21, which are to be developed in a phased process from 2002–2020, are depicted in table 1.<sup>55</sup>

With the promulgation of the Naval Transformation Roadmap and Sea Power 21 in 2002, network-centric concepts, in the form of ForceNet, are for the first time firmly embedded in the official version of naval transformation. It remains to be seen, however, whether naval transformation will fulfill the overarching vision of transformation suggested by *Joint Vision 2020* and the Bush administration’s defense planning documents.

**TABLE 1**  
**THE NTR’S AND SP-21’S TRANSFORMATIONAL WARFIGHTING CAPABILITIES**

Sea Strike	
<ul style="list-style-type: none"> <li>• Persistent intelligence, surveillance, and reconnaissance</li> <li>• Time-sensitive strike</li> <li>• Offensive information operations</li> <li>• Ship-to-objective maneuver</li> <li>• Covert strike</li> </ul>	
Sea Shield	
<ul style="list-style-type: none"> <li>• Homeland defense</li> <li>• Sea/littoral superiority</li> <li>• Theater air and missile defense</li> <li>• Force entry enabling</li> </ul>	
Sea Basing	
<ul style="list-style-type: none"> <li>• Enhanced afloat positioning of joint assets</li> <li>• Accelerated deployment and employment time</li> </ul>	
ForceNet	
<ul style="list-style-type: none"> <li>• Expeditionary, multitiered sensor and weapons grid</li> <li>• Distributed, collaborative command and control</li> <li>• Dynamic, multipath, and survivable networks</li> <li>• Adaptive/automated decision aids</li> <li>• Human-centric integration</li> </ul>	

Source: *Naval Transformation Roadmap: Power and Access . . . from the Sea* (Washington, D.C.: Dept. of the Navy, 2002); and Admiral Vern Clark, U.S. Navy, “Sea Power 21: Projecting Decisive Capabilities,” *U.S. Naval Institute Proceedings* (October 2002), pp. 32–41.

## EVALUATING NAVAL TRANSFORMATION

There are two ways to assess the Navy’s transformation enterprise. First, it can be evaluated against transformation objectives articulated by President Bush and the members of his national security team. In effect, this approach uses a measure external to the Navy. Second, Navy transformation can be assessed in terms of how well the Navy has implemented to date its own concepts. This approach measures internal progress toward the Navy’s stated objectives.

We argue here that although the Navy has made progress toward developing a coherent transformation vision over the past decade, there are gaps between the administration’s stated objectives and the Navy’s transformation enterprise. As for the overall prospects for transformation, a definitive judgment cannot yet be rendered; much depends on how well the Navy supports the headline goals of Sea Power 21 and NCW over time. It is difficult to evaluate the implementation of the Navy’s vision, because the effort cannot be expected to bear fruit for another ten years or more. However, there are already signs that as a result of

budgetary, bureaucratic, and political impediments to transformation, implementation is lagging and will continue to lag.

### *Does Naval Transformation Measure Up?*

Judged against the expectations created by the president and his defense team, the naval transformation enterprise will fall short, even *if*—and this is a big *if*—it is fully implemented in the coming decades. Transformation advocates within OSD, including the Office of Force Transformation, believe that transformation is a matter of discontinuous, even “revolutionary,” change. Yet while neither the next Navy (of 2010) nor the Navy after next (of 2020) will look exactly like today’s Navy, they will be quite recognizable. With a few important exceptions, operational capabilities are unlikely to have been transformed; instead, capabilities resident in the current Navy will have been improved.

The Navy advertises Sea Power 21 as a “new operational construct.”<sup>56</sup> Yet much of Sea Power 21 is a repackaging of familiar ideas. The Navy has long possessed offensive, defensive, and presence capabilities. Although relabeled “Sea Strike,” “Sea Shield,” and “Sea Basing,” those capabilities will continue to be enhanced, or modernized; they are unlikely to be revolutionized. The “new operational construct” essentially calls for routine, sustaining modernization.<sup>57</sup>

A similar judgment can be rendered against network-centric operations. At the most basic level, the desirability of the kinds of information and knowledge advantages touted by NCO is not new. Military commanders since time immemorial have sought more and better information.<sup>58</sup> As for effects-based operations, the Navy, indeed all branches of the military, have often sought to destroy targets with an eye to the reactions of enemy forces and political decision makers. Was not strategic bombing in World War II intended to break the will of the English, German, and Japanese citizenries? Assured access is not a novel idea either. The Navy has long provided battlespace access for other components of the total force; did it not make it possible for the Marines and Army to island-hop across the Pacific? The Navy has also long been the provider of “forward sea-based forces.”<sup>59</sup> Dominating the tempo of war and foreclosing adversary options is also a traditional warfighting objective. How all of this is achieved will certainly be improved, but it is not clear that the Navy will be revolutionized.

Neither is the Navy new to the information age. ForceNet builds upon existing Navy information technology capabilities and programs.<sup>60</sup> Few if any of the envisioned capabilities entail skipping a generation of technology; if anything, even with the advent of spiral development, Navy information technologies will continue to lag behind those of the civilian IT sector. Indeed, existing plans from the Navy–Marine Corps Intranet (NMCI) to CEC, the Naval Fires Network (NFN), and the Expeditionary Sensor Grid (ESG) will incorporate and build



upon existing networks to enhance future connectivity. Sustaining innovation is likely to continue to be the norm. Tellingly, the performance metrics of the nodes, or platforms, and networks envisioned by NCW and NCO require less discontinuous and disruptive innovation than sustaining innovation.<sup>61</sup>

The sense of urgency attached to transformation by the president is little evident in the NTR and other Navy planning documents. For the Navy, it seems that thus far transformation means business as usual—incremental, evolutionary changes in both capabilities and the doctrine necessary to employ those capabilities. There is no evident generation-skipping. The NTR, in particular, features rampant incrementalism. It calls for “more effectively” utilizing and exploiting assets; for enhancing, increasing, improving (sometimes significantly), and leveraging existing capabilities while accelerating certain current programs. Risk taking is also difficult to detect; indeed, the Navy has remained steadfastly risk averse.

The evolution since the mid-1990s of the Navy’s plans for a future carrier is instructive. Initially, with what was “CVX,” the Navy took an ambitious, clean-sheet design approach that may well have resulted in the skipping of a generation, a leap ahead. Due to budgetary constraints and reluctance to assume technological risks, that approach was scaled back with the shift to “CVNX,” a distinctly evolutionary program intended to yield a *next-generation* carrier. By most accounts, it was only pressure from OSD for a “CVN-21” incorporating a range of emerging technologies that prevented the Navy’s next carrier from being merely a slightly improved *Nimitz*-class carrier. Just how transformational the Navy’s next carrier will actually be is an open question. The point is that the Navy reached ahead as far as it did only because it was pushed by OSD.

Some analysts have speculated that Navy programs might be vulnerable after the cancellation of the Army’s Crusader artillery system. But few Navy programs have been canceled to free up resources for transformation.<sup>62</sup> Instead, such existing programs as the Joint Strike Fighter are billed as transformational. Further, the alignment of programs and resources with the Navy transformation vision and roadmap is far from seamless. Programs remain platform-centric rather than network-centric.<sup>63</sup> In the course of his remarks at Ship Tech 2003, Rear Admiral Jay Cohen, Chief of Naval Research, characterized SP-21 and the NTR as “ship-centric.” Science and technology, and research and development, programs remain focused more on near-term technology transition to the fleet than on the long-term basic S&T/R&D that may be required for true transformation. Routine modernization and the recapitalization of legacy systems appear to overshadow programs that could yield disruptive innovation.<sup>64</sup>

Navy transformation to date is thus a rather modest enterprise. It is difficult to distinguish from modernization. It emphasizes sustaining innovation and incremental, evolutionary change. At best, it amounts to “modernization plus.”

Barring unforeseen developments, the Navy will continue to do what it does now, only better. The Navy's transformation enterprise does not live up to the expectations created by the Bush defense team; Sea Power 21 is unlikely to result in transformation.

It must be acknowledged, however, that the Navy's measured, incremental, evolutionary approach to transformation is actually not entirely out of sync with OSD's approach. The urgency attached to transformation, the emphasis on discontinuous—even disruptive—change, evident in the QDR, the 2002 *Annual Report*, and elsewhere is not absolute. Administration officials recognize that transformation is a long-term process, that its promise will be fully realized only with the passage of time.<sup>65</sup> “Today's challenges” must be addressed even while the military is transforming for the future; future readiness is not to be ensured at the expense of current readiness.<sup>66</sup> Prudence and balance are ever the watchwords: “It would be imprudent to transform the entire force all at once. A balance must be struck between the need to meet current threats while transforming the force over time.”<sup>67</sup> This approach, which much resembles that of the Clinton administration, is unlikely to result in a rush to transformation by the Navy—or any of the other services.

### *Modernization Plus*

Each of Sea Power 21's major foci provide possible exceptions to the argument that current plans for Navy transformation do not measure up. Several initiatives particularly deserve attention.

*Sea Strike.* A range of strike platforms have been portrayed as “undergoing a revolution in capability.”<sup>68</sup> For instance, SSGNs—Trident ballistic-missile submarines converted to attack boats, carrying cruise missiles and unmanned vehicles and deploying special-operations forces—will have Arsenal Ship-like capabilities; indeed, they will be even more stealthy than the Arsenal Ship would have been. SSGNs will also bolster the Navy's existing cruise-missile launch capability (if not the number of cruise missiles available for launch). Why four SSGNs should be regarded as transformational, however, is not evident.

The DD(X) destroyer, CG(X) cruiser, and Littoral Combat Ship (LCS) have also been characterized as revolutionary.<sup>69</sup> This “Surface Combatant Family of Ships,” however, may be no more a radical departure than the aforementioned CVN(X). That DD(X) is being designed as a multimission *land-attack* destroyer is in line with the Navy's post-Cold War reorientation from blue water to the littoral. As for the LCS, given the vehement reaction to the concept of a Streetfighter when it was introduced, it is no less noteworthy that the Navy is not only proceeding with the program but is seriously considering alternative hull designs, some of which are of foreign origin.<sup>70</sup> Yet the mix of surface

combatant capabilities represented by this family of ships inspires a sense of *déjà vu*. As two retired admirals have pointed out, “The Family of Ships is really a 21st-century version of the high-low mix of the 1970s.”<sup>71</sup> This reincarnated high-low mix may be undermined by two of the problems that doomed the earlier attempt: at the low end, cost growth; at the high end, inability to procure the number of platforms required to make the mix work. The Navy has not yet escaped the tyranny of resource constraints.

Many transformation proponents have highlighted the potentially revolutionary impact of unmanned vehicles on military operations from reconnaissance to strike. Sea Strike envisions a future battle space populated by an array of unmanned vehicles—aerial, surface, and subsurface. Yet the Navy’s unmanned-vehicle programs appear to lag behind Air Force, Army, and Marine counterparts. This is especially true for unmanned aerial vehicles (UAVs). According to one recent report, there are fourteen separate Navy unmanned-vehicle programs. Seven are UAVs; of those, five are being used, or will be used, in very limited numbers for testing, training, or developmental training; the other two (Northrop Grumman’s Pegasus and Boeing’s X-45) are largely funded by the Defense Advanced Research Agency and are not projected to see naval service until 2015. As for Global Hawk, a now well-known UAV that was first rushed into operation for the Afghanistan campaign, the Navy plans to purchase only two systems, one in 2005 and one in 2007.<sup>72</sup> The Navy has also sought a hundred million dollars to upgrade a Pioneer system that dates back to the mid-1980s. By contrast the U.S. Air Force, Army, and Marine Corps have deployed relatively new, relatively capable UAVs even as they continue to test and evaluate next-generation systems.

Perhaps this is unfair. After all, there is something to the claim that operating UAVs in a maritime environment poses challenges not faced by ground-based systems. Launch and recovery of ship-based naval UAVs, for example, presents serious technical challenges. Finding space to store, maintain, and operate UAVs on vessels not originally designed to host them can be problematical. Moreover, if the Navy is able to field reconnaissance variants of either the Pegasus or the X-45 by 2015 as planned, the service will actually be on track to meet the needs of the Navy after next.

Even though the utility of UAVs has become increasingly clear over the past two decades, the Navy has been slow to recognize their value. It has pursued unmanned aerial vehicles only in fits and starts. Representatives of one major UAV manufacturer told one of the authors that they “hated” doing business with the Navy, because it spent so much time researching operational requirements and testing existing systems. They doubted that the Navy would ever actually field a system.<sup>73</sup> The Fire Scout vertical-takeoff-and-landing UAV program, whatever

its specific merits, seems representative; after an initial investment the Navy pulled back from production in early 2002, all but terminating the program, and began thinking once again about new UAV designs and concepts. Then, early in 2003, Fire Scout was reinvigorated.<sup>74</sup>

Even UAV-related developments with regard to one of the Navy's most highly touted near-term transformation programs, the SSGN conversion, may represent less than meets the eye. In the winter of 2003, the Giant Shadow experiment "absolutely validated that UAVs provide a great value, on the tactical and operational level of war, to an SSGN that's operating as . . . an ISR home base," according to the commander of the experiment's joint force maritime component.<sup>75</sup> One element of the overall experiment tested the ability of a land-launched Boeing/Insitu ScanEagle UAV to communicate with the submarine and other naval assets. Yet *Aerospace Daily* quoted the maritime component commander as concluding, "I'd like to pursue a UAV for submarines, although I'm not convinced that [ScanEagle] is it. . . . Its wingspan is too big [and] the launching . . . was sometimes problematic."<sup>76</sup> Modification of the ScanEagle, other competing UAV designs, or the development of a UAV designed specifically to operate from submarines may have to wait, however, given current programming.

**Sea Shield.** Much of Sea Shield, at least as described in publicly available documents, is not new. It prominently features traditional force protection missions—air defense, mine countermeasures, and antisubmarine warfare programs—and ensuring access to the littoral. Potentially more disruptive, however, are plans to provide theater ballistic missile defense and ballistic missile defense from sea-based platforms. In the words of Admiral Clark,

It [Sea Shield] is about projecting global defensive assurance, projecting defense. . . . Traditionally, naval defense has been concerned with protecting our units or the force, and the sea lines of communication. Tomorrow's navy must of course do all of that, but we must be able to do much more: projecting defensive technology beyond the task force, providing theatre and strategic defense for the first time.<sup>77</sup>

In short, the U.S. Navy is preparing to play a central role in defending the homeland not against the seaborne invasions of old but ballistic missiles armed with weapons of mass destruction.<sup>78</sup> The Navy's sea-based "Mid-Course" system is expressly intended to protect population areas from ballistic missile threats. Navy assets committed to this homeland defense mission become "strategic" in the same sense that the fleet's ballistic missile submarines (SSBNs) have been strategic.<sup>79</sup> Also like SSBNs, they are unlikely to be available for other missions.

Although the long-term effects of this aspect of Sea Shield on the Navy remain to be seen, stationing a picket line of ships to track and intercept ballistic missiles aimed at the American homeland or an allied population center may

very well change the culture of the service. Rather than engaging the enemy fleet on the high seas or striking enemy forces in the littoral or far inland, Navy officers and enlisted personnel will be asked to wait and respond to an attack. Taken to the extreme, crews onboard ships dedicated to missile defense will be akin to missile launch officers sitting in silos waiting for the balloon to go up.<sup>80</sup>

*Sea Basing.* Since 11 September 2001 it has become apparent that the United States may be involved in conflicts of longer duration than at any time since the Vietnam War. Future operations in failed or failing states, for example, may require it to commit forces for years rather than months. Access to bases in neighboring countries will not always be readily available; neutral states and even a few allies have been reluctant to grant the U.S. military unrestricted access to facilities or overflight rights at various points during the war on terror and during preparations for a potential invasion of Iraq. More of the same can be expected in the future. As a result the United States may increasingly rely on sea-based forces to conduct strike operations and support ground forces.

Sea Power 21's emphasis on sea basing has reinvigorated discussions about the need for mobile offshore bases (MOBs) that have continued since Admiral William Owens first raised the idea in the mid-1990s.<sup>81</sup> Thus, for example, some planners want next-generation Maritime Prepositioning Force (Future), or MPF(F), vessels to have "the ability to selectively onload and offload military gear at sea."<sup>82</sup> One concrete means to accomplish sea basing that differs somewhat from the MOB concept involves combining the Joint Command and Control Ship, or JCC(X), with the MPF(F) program.

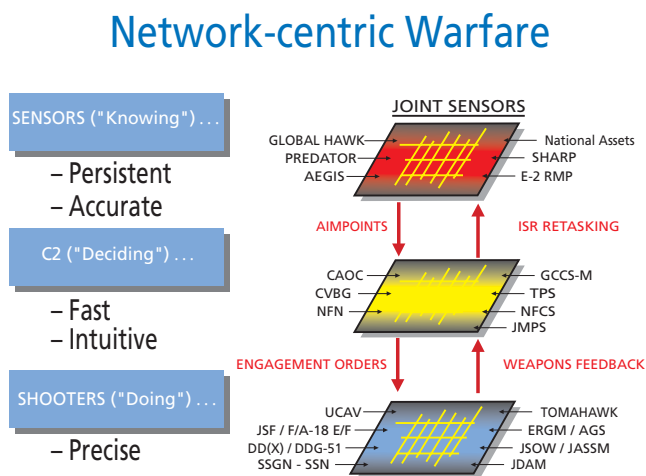
Although, again, it is too early to know what form Sea Basing will take as it moves beyond the concept development stage, some form of a MOB could provide a transformational capability. At least for some missions and finite periods of time, they would free American forces from the tyranny of land bases. They would also tie the Navy still more closely to its Marine and Army counterparts, placing it in a distinctly supporting role and making it joint in a way envisioned only in rhetoric today.

*ForceNet.* The claim that the range of Sea Strike, Sea Shield, and Sea Basing capabilities are indeed transformational rests largely on ForceNet. ForceNet was presented in the Naval Transformation Roadmap as the Navy's framework for implementing network-centric warfare.<sup>83</sup> Originally developed by the Chief of Naval Operations' Strategic Studies Group, it has been billed variously as putting the "warfare" in network-centric warfare and as "the next generation of NCW." According to Admiral Clark, ForceNet is the plan for making NCW an "operational reality": it will integrate "warriors, sensors, command and control, platforms, and weapons into a networked, distributed combat force."<sup>84</sup> This

planned network of networks and system of systems is expected to be the information-technology backbone of information-age naval warfare. Today the ForceNet concept serves as an umbrella both for existing programs such as the NMCI, IT-21, CEC, and NFN and for major future programs such as the ESG and the Expeditionary Command and Control, Communications, Computers, and Combat Systems Grid (EC5G)(see figure 2).

It is the connectivity and synergy to be provided by such efforts that is intended to be the source of any transformation brought about by SP-21's core

**FIGURE 2**  
**THE EC5G: A NOTIONAL DEPICTION**



Source: Chief of Naval Operations HQWeb, [ucso2.hq.navy.mil/n7/webbas01.nsf/\(wwwwebpage\)/webbase.htm](http://ucso2.hq.navy.mil/n7/webbas01.nsf/(wwwwebpage)/webbase.htm).

operational concepts. Sea Strike's time-sensitive strike;<sup>85</sup> offensive information operations from the sea, shared situational awareness, simultaneous strike, and sensor fusion; Sea Shield's layered theater air and missile defense;<sup>86</sup> the common air, surface, and underwater picture;<sup>87</sup> forward homeland defense;<sup>88</sup> Sea Basing's distributed and networked platforms;<sup>89</sup> and the interoperability touted by SP-21 generally—all are to be either provided or enabled by ForceNet. The weight of Navy

transformation rests on ForceNet. Unless its promises are realized, the potential of platforms such as CVN(X), DD(X), CG(X), LCS, and SSGNs; unmanned aerial, surface, and undersea vehicles; and combat force structures such as "expeditionary strike groups" and missile-defense surface action groups will not be fully exploited.

A principal "enabling element" of ForceNet is the planned set of information, sensor, and engagement grids capable of linking all elements of the network with each other and with the wider information "back plane" that constitutes the World Wide Web and Defense Department-specific networks. This is not a single network but a network of networks, "a global grid of multiple, interoperable, overlapping sensor, engagement, and command nets."<sup>90</sup> The success of ForceNet requires the development, procurement, and deployment of large numbers of more capable sensors to populate the sensor grid and provide a common operational picture.

Among existing programs, as illustrated in figure 3, the Cooperative Engagement Capability, IT-21, the Radar Modernization Program (RMP), the Web



Centric Anti-Submarine Warfare Net (WeCAN), and the Navy–Marine Corps Intranet will help the Navy evolve further toward the ability to conduct network-centric operations.<sup>91</sup> A critical step is the deployment of a multitiered—space, air, surface/ground and undersea—expeditionary sensor grid combining, among other things, invasive sensing systems, unmanned platforms, massively distributed information systems, and computer network attack and defense capabilities.<sup>92</sup> At its simplest, the ESG is a “toolbox of sensors and networks necessary to build . . . real-time battlespace awareness.”<sup>93</sup>

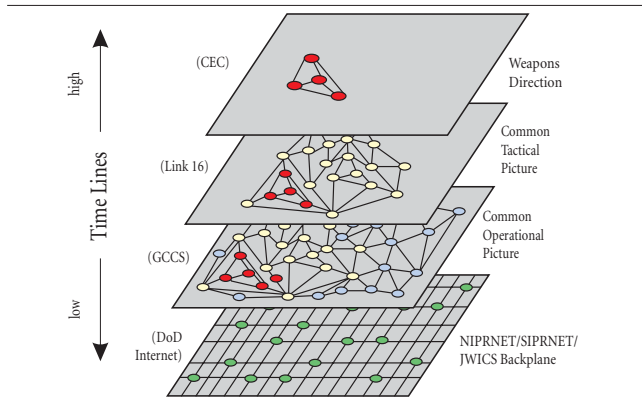
A network-centric future has implications for the Navy’s doctrine, organization, and relationship with the other services. In 1998, the Navy Warfare Development Command was stood up as an institutional champion for innovation. It was specifically tasked to develop new concepts of operations and new doctrine. In addition to NCO, it is developing operational concepts for Sea Strike, Sea Shield, and Sea Basing. Also in development are a range of supporting and func-

tional concepts for informational operations, homeland defense, theater air and missile defense, future naval fires, high-speed lift, and the Littoral Combat Ship. Whether the impact of these new operational concepts and doctrine will be transformational remains to be seen. But the Navy will not transform without them.

In addition to the establishment of the Navy Warfare Development Command, there have been a number of other organizational initia-

tives. Under Admiral Clark, NWDC itself has been subordinated to the Commander, U.S. Fleet Forces Command (CFFC), Sea Trial’s designated lead agent, to coordinate experimentation programs. To facilitate integrated platform and network planning, the Navy Staff’s N6 and N7 codes have been merged under a new Deputy Chief of Naval Operations for Warfare Requirements and Programs, who was designated the director of ForceNet. Information operations have been added to the list of major warfare areas, and the Naval Network Warfare Command has been established to coordinate information technology and information operations activities.<sup>94</sup> None of these initiatives, however, yet poses a serious challenge to the dominance of the Navy’s platform-centric baronies.

**FIGURE 3**  
**THE INFORMATION GRID: DETAILED VIEW**



Source: Jim Eagle's Web Page, Operations Department, Naval Postgraduate School, Monterey, California, [spica.or.nps.navy.mil/netusw/CebrowskiNetWar/sld005.htm](http://spica.or.nps.navy.mil/netusw/CebrowskiNetWar/sld005.htm).

The shift to a network-centric force could have profound implications for the Navy's relationship with its sister services. ForceNet and its NCW/NCO foundation assume a high level of jointness and interoperability. The language of jointness and interoperability actually suffuses all of Sea Power 21. Sea Strike's operational capabilities are to be employed in joint campaigns; Sea Shield is to provide protection for the joint force; and Sea Basing is to support joint operations. The promise of jointness has serious implications for the implementation of ForceNet. If jointness is to be taken seriously and the advantages of connectivity and integration are to be exploited fully, all of the military's offensive and defensive capabilities, not just the Navy's, must be networked. A common operational picture, for instance, is not really common unless it is shared by the Air Force and the Army as well as by the Navy and the Marine Corps. The difficulties of ensuring a common operational picture should not be underestimated, however. How is it to be achieved? Should the services pursue separate but coordinated capabilities? If so, can they be confident that the resulting systems will mesh to form an integrated system of systems with the seamless connectivity required for a joint COP? Or should the approach be joint from the start, with system acquisition assumed by the Joint Staff or Joint Forces Command and the services required to tailor their new platforms to joint NCW requirements? There is an undeniable logic to the joint acquisition of joint capabilities. That logic is particularly compelling in the case of the network capabilities that are at the heart of the sought-after transformation. The jointness required to realize fully NCW's potential may be profoundly transformational. A truly joint Navy would be a transformed Navy. But that does not appear to be the transformation the Navy has in mind.

#### IS THE LACK OF TRANSFORMATION A PROBLEM?

Thus far, what passes for transformation within the Navy is less revolutionary than official rhetoric suggests. Even under a best-case scenario—where most if not all of the Navy embraces current transformation initiatives, the resources necessary to implement transformation are readily available, and the technological challenges inherent in developing new capabilities are met—it is difficult to avoid concluding that the Navy after next will be a modernized version of the existing fleet. It is possible that over time the accumulation of small-bore changes will yield a force that deserves to be characterized as transformed. However, the prospects for discontinuous, disruptive change appear slim.

Programs billed as transformational will add important capabilities to the Navy. The Navy's abilities to collect and share information, sustain operations, operate in a more stealthy fashion, and directly contribute to the defense of the American homeland will improve. But these capabilities are unlikely to provide the virtual "lockout" of competitor options envisioned by proponents of

transformation. Nor will they prevent adversaries from devising asymmetric strategies for countering U.S. naval power. But they may further ongoing changes in the organization of the Navy, its culture, and perhaps even the nature of the officers and enlisted men and women serving their country.

Is the lack of real transformation a problem?<sup>95</sup> Not especially. In our view, no compelling strategic rationale for transformation has yet been articulated. Transformation that equates to a revolution in military affairs is not required for the maintenance and extension of either U.S. military dominance specifically or American primacy generally. Nor is it a requirement for fighting and winning the global war on terror. Generic capabilities designed to meet generic threats (as in capabilities-based planning) or old threats pumped up for a new millennium (as in threat-based planning against a North Korean foe) in the service of force protection will suffice in the absence of a clear and present danger on the order of that posed by the former Soviet Union.

According to the NTR, the objective of naval transformation is “to achieve a broad, sustained and decisive military competitive advantage over existing or potential adversaries.”<sup>96</sup> The Navy, however, already possesses that competitive advantage. It is the world’s preeminent naval force. It already exercises virtually unchallenged command of the seas and possesses unrivaled power projection capabilities. There is nobody in the rear-view mirror. At worst, the Navy will face asymmetric challenges in the littoral and perhaps the emergence of a regional competitor, such as China. While these are difficult challenges, there seems little reason to think that they constitute a “competitive challenge” to the dominance of the U.S. Navy. That preserving and extending its preeminence requires “substantially extending boundaries of necessary military competencies and . . . discovering fundamentally new approaches to military operations”<sup>97</sup> remains to be demonstrated. What future challengers require that the Navy embrace fundamentally new approaches that challenge it to reinvent itself?

The Navy that will gradually emerge from the naval transformation enterprise will be well suited to carry out the roles and missions implied by the evolving U.S. grand strategy initiated by the Clinton administration and more fully, and bluntly, articulated by its successor. The Navy will be better equipped to strike terrorists and rogue states posing either conventional or WMD threats to the American homeland, installations abroad, or allies. It will contribute to both active and passive defense against ballistic missile threats. And it will operate more jointly than in the past and with a high level of connectivity.

Civilian officials in the Department of Defense intent on transformation may indeed feel that attempting to change the Navy (and the rest of the military) is like punching a pillow. But the Navy’s modernization-plus approach is likely to provide the nation with the capabilities required for the future.

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NOTES

1. Epigraph as quoted in Richard H. Kohn, "The Erosion of Civilian Control of the Military in the United States Today," *Naval War College Review* 55, no. 3 (Summer 2002), p. 20.
2. Paul Bracken, "The Military after Next," *Washington Quarterly* 16, no. 4 (Autumn 1993), pp. 157–74.
3. Navy Warfare Development Command [hereafter NWDC], *Network Centric Operations: A Capstone Concept for Naval Operations in the Information Age* (Newport, R.I.: NWDC, draft dated 19 June 2001), p. 1.
4. We write not as transformation advocates but as analysts of the transformation phenomenon.
5. *Joint Vision 2020* is available at [www.dtic.mil/jv2020/](http://www.dtic.mil/jv2020/).
6. For the Army's Vision and Army Transformation, go to [www.army.mil/armyvision](http://www.army.mil/armyvision). For a useful overview of Army transformation issues see Edward F. Bruner, *Army Transformation and Modernization: Overview and Issues for Congress*, RS20787 (Washington, D.C.: Congressional Research Service, Library of Congress [hereafter CRS], 4 April 2001).
7. The U.S. Air Force *Vision 2020* can be found at [www.af.mil/vision/](http://www.af.mil/vision/).
8. From *The Aerospace Force: Defending America in the 21st Century*, p. iii, at [www.af.mil/lib/taf.pdf](http://www.af.mil/lib/taf.pdf). An overview of Air Force transformation issues is provided by Christopher Bolkom, *Air Force Transformation and Modernization: Overview and Issues for Congress*, RS20787 (Washington, D.C.: CRS, 1 June 2001).
9. James L. Jones [Gen., USMC], *Marine Corps Strategy 21* (Washington, D.C.: Dept. of the Navy, Headquarters U.S. Marine Corps, 3 November 2000), available at [www.usmc.mil/template1.nsf/25241abbb036b230852569c4004eff0e/\\$FILE/strategy.pdf](http://www.usmc.mil/template1.nsf/25241abbb036b230852569c4004eff0e/$FILE/strategy.pdf). See also *Expeditionary Maneuver Warfare: Marine Corps Capstone Concept* (Washington, D.C.: Dept. of the Navy, Headquarters Marine Corps, 10 November 2001), available at [192.156.19.109/emw.pdf](http://192.156.19.109/emw.pdf).
10. Governor George W. Bush, "A Period of Consequences," address delivered at The Citadel, South Carolina, 23 September 1999.
11. "Excerpts from Bush's Remarks on the Military," *New York Times*, 14 February 2001, p. A26. Also available at [www.whitehouse.gov/news/releases/print/20010213-1.html](http://www.whitehouse.gov/news/releases/print/20010213-1.html).
12. Thomas E. Ricks, "Pentagon Study May Bring Big Shake-Up: Unconventional Defense Thinker Conducting Review," *Washington Post*, 9 February 2001.
13. See William M. Arkin, "Rumsfeld Top-to-Bottom Review Evolves," *Defense Daily*, 16 April 2001.
14. *Quadrennial Defense Review* [hereafter QDR] Report (Washington, D.C.: Dept. of Defense, 30 September 2001), p. iv.
15. *Ibid.*, p. 16.
16. *Ibid.*, p. iv. Emphasis added. In DoD's 2002 *Annual Report to the President and the Congress*, it is explicitly the attacks of 11 September 2001 that lend urgency to transformation. Donald H. Rumsfeld, *Annual Report to the President and the Congress* (Washington, D.C.: Dept. of Defense, 2002), p. 1. On page 67 of the *Annual Report*, at the outset of chapter 6, "Transforming the Force," it is argued that "September 11 made manifest the danger of postponing preparations for the future. We must prepare now to anticipate future surprises and mitigate their effects." Available at [www.defenselink.mil/execsec/adr2002/index.htm](http://www.defenselink.mil/execsec/adr2002/index.htm).
17. *QDR Report*, pp. 30–47.
18. He added (unhelpfully, in our view) that "we are the better for it." E. C. "Pete" Aldridge, Jr. [Under Secretary of Defense (AT&L)], "Technology and National Defense," address to Darpa Tech, 30 July 1992, available at [www.acq.osd.mil/usd/new\\_speeches/peo.doc](http://www.acq.osd.mil/usd/new_speeches/peo.doc).
19. On the dimensions of transformation, see Andrew F. Krepinevich, "Calvary to Computer: The Pattern of Military Revolutions," *National Interest*, no. 37 (Fall 1994), pp. 30–42.
20. *QDR Report*, p. 29. Emphasis added.
21. Rumsfeld, *Annual Report*, p. 68.
22. See Donald H. Rumsfeld, "Transforming the Military," *Foreign Affairs* 81, no. 3 (May/June 2002), pp. 20–32.
23. According to Deputy Secretary Paul Wolfowitz, "Our overall goal is to encourage

- a series of transformations that, in combination, can produce a revolutionary increase in our military capability and redefine how war is fought.” Paul Wolfowitz, “Prepared Statement for the Senate Armed Services Committee Hearing on Military Transformation,” 9 April 2002, available at *DefenseLink*, [www.defenselink.mil/speeches/2002/s20020409-depsecdef2.html](http://www.defenselink.mil/speeches/2002/s20020409-depsecdef2.html).
24. As Under Secretary Aldridge put it, “resources are finite and if we can do better, we will not hesitate to bypass a good program today in favor of a profoundly transformational one tomorrow.” Aldridge, “Technology and National Defense.”
  25. On the importance of the RMA for military transformation see Robert Tomes and Peter Dombrowski, “Arguments for a Renewed RMA Debate,” *National Security Studies Quarterly* 7, no. 3 (Summer 2001), pp. 109–22. For the reference to culture and behavior, *QDR Report*, pp. 6, 29. On the distinction between sustaining and disruptive innovation, see Clayton M. Christensen, *The Innovator’s Dilemma* (New York: HarperBusiness, 2000).
  26. The Bush administration’s commitment to transformation may even exceed that exhibited by the military itself. See, for instance, Donald Rumsfeld, remarks as delivered at the National Defense University, Fort McNair, Washington, D.C., 31 January 2002, available at *DefenseLink*, [www.defenselink.mil/speeches/2002/s20020131-secdef.html](http://www.defenselink.mil/speeches/2002/s20020131-secdef.html); “Transforming the Military”; and “A Choice to Transform the Military,” *Washington Post*, 16 May 2002, p. 25. See also Wolfowitz, “Prepared Statement for the Senate Armed Services Committee Hearing on Military Transformation.”
  27. *The National Security Strategy of the United States of America* (Washington, D.C.: White House, September 2002), pp. 29–31. Specifically called for is the development of “assets such as advanced remote sensing, long-range precision strike capabilities, and transformed maneuver and expeditionary forces” (pp. 29–30).
  28. National Defense Panel, *Transforming Defense: National Security in the 21st Century*, December 1997, p. iv, available at *Federation of American Scientists*, [www.fas.org/man/docs/ndp/toc.htm](http://www.fas.org/man/docs/ndp/toc.htm). On the Clinton administration’s “balanced” approach to transformation, see William S. Cohen, *Report of the Quadrennial Defense Review* (Washington, D.C.: Dept. of Defense, May 1997).
  29. Vernon Clark [Adm., USN], “Sea Power 21: Operational Concepts for a New Era,” remarks delivered at the Current Strategy Forum, Naval War College, Newport, R.I., 12 June 2002.
  30. On this reorientation see Jan S. Breemer, “The End of Naval Strategy: Revolutionary Change and the Future of American Naval Power,” *Strategic Review* 22, no. 2 (Spring 1994), pp. 40–53; and Edward Rhodes, “‘From the Sea’ and Back Again: Naval Power in the Second American Century,” *Naval War College Review* 52, no. 2 (Spring 1999), pp. 13–54.
  31. See Arthur K. Cebrowski [Vice Adm., USN] and John J. Garstka, “Network-centric Warfare: Its Origin and Future,” U.S. Naval Institute *Proceedings* (January 1998), pp. 28–35. On NCW see also David S. Alberts, John J. Garstka, and Frederick P. Stein, *Network Centric Warfare: Developing and Leveraging Information Superiority*, 2d ed. (Washington, D.C.: C4ISR Cooperative Research Program, 1999); Committee on Network-Centric Naval Forces, Naval Studies Board, *Network-centric Naval Forces: A Transition Strategy for Enhancing Operational Capabilities* (Washington, D.C.: National Academy Press, 2000); and Edward P. Smith, “Network-centric Warfare: What’s the Point?” *Naval War College Review* 54, no. 1 (Winter 2001), pp. 59–75. Admiral Clark was not the first CNO to embrace transformation and network-centric warfare. In his preface to the April 2000 *Navy Planning Guidance*, then Chief of Naval Operations Adm. Jay L. Johnson wrote of building “a Navy for the Information Age” and its “transformation to a network-centric and knowledge-superior force.” Chief of Naval Operations, *Navy Planning Guidance: With Long Range Planning Objectives* (Washington, D.C.: Dept. of the Navy, April 2000), p. 1. Similarly, the Vice Chief of Naval Operations declared, “We are moving away from a platform-centered Navy to one being built around data networks. . . . [O]ur concept of operations will use as its basis an integrated, common network.” William J. Fallon, “Fighting to Win in the Littoral and Beyond,”

- Armed Forces Journal International* (June 2001), pp. 67–68. Dennis McGinn (then a vice admiral) asserted that “investment in networks and sensors is transformational.” Quoted in Robert Holzer, “U.S. Navy Mulls Fundamental Shift in Tactics, Funds,” *Defense News*, 7 May 2001, p. 1.
32. Vern Clark [Adm., USN], “Sea Power 21: Projecting Decisive Joint Capabilities,” U.S. Naval Institute *Proceedings*, October 2002, p. 33.
  33. The account of network-centric warfare provided here draws upon Peter J. Dombrowski, Eugene Gholz, and Andrew L. Ross, *Military Transformation and the Defense Industry after Next: The Defense-Industrial Implications of Network-Centric Warfare* (Newport, R.I.: Strategic Research Department, Center for Naval Warfare Studies, U.S. Naval War College, September 2002).
  34. For serious treatments of the forces at work see Daniel Bell, *The Coming of Post-Industrial Society: A Venture in Social Forecasting* (New York: Basic Books, 1999), and Manuel Castells, *The Rise of the Network Society*, 2d ed. (Oxford: Blackwell, 2000). For popular treatments, see Thomas L. Friedman, *The Lexus and the Olive Tree: Understanding Globalization* (New York: Farrar, Straus, and Giroux, 1999), and James Gleick, *Faster: The Acceleration of Just About Everything* (New York: Pantheon, 1999). Works that have received far more attention in military circles than they deserve include Kevin Kelly, *New Rules for the New Economy: 10 Radical Strategies for a Connected World* (New York: Viking, 1998); Alvin Toffler, *The Third Wave* (New York: William Morrow, 1980); Alvin Toffler, *Powershift: Knowledge, Wealth, and Violence at the Edge of the 21st Century* (New York: Bantam Books, 1990); and Alvin Toffler and Heidi Toffler, *Creating a New Civilization: The Politics of the Third Wave* (Atlanta: Turner, 1995).
  35. See John Arquilla and David Ronfeldt, eds., *In Athena's Camp: Preparing for Conflict in the Information Age* (Santa Monica, Calif.: RAND, 1997); Eliot A. Cohen, “A Revolution in Warfare,” *Foreign Affairs* 75, no. 2 (March/April, 1996), pp. 37–54; Victor A. DeMarines, with David Lehman and John Quilty, “Exploiting the Internet Revolution,” in *Keeping the Edge: Managing Defense for the Future*, ed. Ashton B. Carter and John P. White (Cambridge, Mass., and Stanford, Calif.: Preventive Defense Project, 2000), pp. 61–102; Joseph S. Nye, Jr., and William A. Owens, “America's Information Edge,” *Foreign Affairs* 75, no. 2 (March/April 1996), pp. 20–36; and Bill Owens, with Ed Offley, *Lifting the Fog of War* (New York: Farrar, Straus and Giroux, 2000). For a more popular account see Alvin Toffler and Heidi Toffler, *War and Anti-War: Making Sense of Today's Global Chaos* (New York: Warner, 1993).
  36. See, for example, Cebrowski and Garstka, “Network-Centric Warfare,” and Alberts, Garstka, and Stein, *Network Centric Warfare*, esp. pp. 15–23. A useful discussion of NCW/NCO is provided by Scott C. Truver, “Tomorrow's U.S. Fleet,” U.S. Naval Institute *Proceedings* (March 2001), pp. 102–10. For a comparison of U.S. and Swedish versions of NCW see Nick Cook, “Network-centric Warfare: The New Face of C4I,” *Interavia* (February 2001), pp. 37–39. Cautionary notes are provided by Thomas P. M. Barnett, “The Seven Deadly Sins of Network-centric Warfare,” U.S. Naval Institute *Proceedings* (January 1999), pp. 36–39; Richard J. Harknett and the JCIS Study Group, “The Risks of a Networked Military,” *Orbis* 44, no. 1 (Winter 2000), pp. 127–43; Milan Vego, “Net-centric Is Not Decisive,” U.S. Naval Institute *Proceedings* (January 2003), pp. 52–57; and Franklin Spinney, “What Revolution in Military Affairs?” *Defense Week*, 23 April 2001.
  37. Not all nodes, of course, are created equal. Some are more complex and, therefore, more expensive than others. The point is that networked nodes should be simpler and lower in cost than stand-alone nodes.
  38. There is no real consensus among its proponents about precisely what NCW is or entails. Its proponents charitably view NCW as a dynamic, living, evolving concept. Skeptics are more inclined to characterize NCW as a moving target, riddled with ambiguities and informed by dubious analogies. In a definition attributed to John Garstka, NCW is “warfare which harnesses information technologies in the form of global sensor, connectivity, and engagement grids to achieve a common operational picture that will lead to self-synchronization, massed effects, and the desired lock-out of a given enemy's courses of action.” See Robert Odell, Bruce Wald, Lyntis



- Beard, with Jack Batzler and Michael Loescher, *Taking Forward the Navy's Network-Centric Warfare Concept: Final Report*, CRM 99-42.10 (Alexandria, Va.: Center for Naval Analyses, May 1999), p. 11. The Naval Studies Board's Committee on Network-centric Naval Forces defined network-centric operations as "military operations that exploit state-of-the-art information and networking technology to integrate widely dispersed human decision makers, situational and targeting sensors, and forces and weapons into a highly adaptive, comprehensive system to achieve unprecedented mission effectiveness." Committee on Network-centric Naval Forces, Naval Studies Board, *Network-Centric Naval Forces*, p. 12. NWDC has described NCO as "deriving power from the rapid and robust networking of well-informed, geographically dispersed war fighters. They create overpowering tempo and a precise, agile style of maneuver warfare." NWDC, *Network Centric Operations*.
39. NWDC, *Network Centric Operations*.
40. On information and knowledge advantage see [www.nwdc.navy.mil/Concepts/IKA.asp](http://www.nwdc.navy.mil/Concepts/IKA.asp). On effects-based operations see [www.nwdc.navy.mil/Concepts/EBO.asp](http://www.nwdc.navy.mil/Concepts/EBO.asp).
41. Quoted in Truver, "Tomorrow's U.S. Fleet," p. 103.
42. For "rule set," NWDC, *Network Centric Operations*, p. 9.
43. *Ibid.*, p. 11.
44. *Ibid.*, p. 10.
45. The joint aspects of NCW are highlighted in John J. Garstka, "Network Centric Warfare: An Overview of Emerging Theory," available at [www.mors.org/Pubs/phalanx/dec00/feature.htm](http://www.mors.org/Pubs/phalanx/dec00/feature.htm); John G. Roos, "An All-Encompassing Grid," *Armed Forces Journal International* (January 2001), pp. 26–35; Hunter Keeter, "Cebrowski: Joint Philosophy Fosters Network Centric Warfare," *Defense Daily*, 12 April 2002, p. 8; and Fred P. Stein, "Observations on the Emergence of Network Centric Warfare," available at [www.dodccrp.org/steinncw.htm](http://www.dodccrp.org/steinncw.htm) and as "Information Paper: Observations on the Emergence of Network-Centric Warfare" at [www.dtic.mil/jcs/j6/education/warfare.html](http://www.dtic.mil/jcs/j6/education/warfare.html).
46. NWDC, *Network Centric Operations*, p. 10.
47. *Ibid.*, pp. 4–5.
48. On swarming, see Joseph E. Skinner [Cdr., USN], "Swarm the Littorals," U.S. Naval Institute *Proceedings* (March 2001), pp. 88–91.
49. Clark, "Sea Power 21: Projecting Decisive Joint Capabilities," pp. 33, 37. Alternative visions of naval transformation are provided by Robert O. Work [Col., USMC (Ret.)], *The Challenge of Maritime Transformation: Is Bigger Better?* (Washington, D.C.: Center for Strategic and Budgetary Assessments, 2002); and Andrew F. Krepinevich, Jr., *A New Navy for a New Era* (Washington, D.C.: Center for Strategic and Budgetary Assessments, May 1996).
50. Clark, "Sea Power 21: Projecting Decisive Joint Capabilities," p. 41.
51. Particularly information technologies and systems integration capabilities.
52. Clark, "Sea Power 21: Projecting Decisive Joint Capabilities," p. 41.
53. *Naval Transformation Roadmap: Power and Access . . . from the Sea* (Washington, D.C.: Dept. of the Navy, 2002).
54. See, particularly, Clark, "Sea Power 21: Operational Concepts for a New Era," and "Sea Power 21: Projecting Decisive Joint Capabilities"; Mike Bucchi [Vice Adm., USN], and Mike Mullen [Vice Adm., USN], "Sea Shield: Projecting Global Defensive Assurance," U.S. Naval Institute *Proceedings* (November 2002), pp. 56–59; Cutler Dawson [Vice Adm., USN] and John Nathman [Vice Adm., USN], "Sea Strike: Projecting Persistent, Responsive, and Precise Power," U.S. Naval Institute *Proceedings* (December 2002), pp. 54–58; Charles W. Moore, Jr. [Vice Adm., USN] and Edward Hanlon, Jr. [Lt. Gen., USMC], "Sea Basing: Operational Independence for a New Century," U.S. Naval Institute *Proceedings* (January 2003), pp. 80–85; Richard W. Mayo [Vice Adm., USN], and John Nathman [Vice Adm., USN], "ForceNet: Turning Information into Power," U.S. Naval Institute *Proceedings* (February 2003), pp. 42–46.
55. During the first phase, 2002–2004, the focus will be on improving networks, sensors, people, and weapons, with networks and sensors the highest priorities. People and infrastructure will be accorded highest priority during the second stage, 2004–2010, and platform



- and infrastructure improvements are to be added to the agenda. Platform and infrastructure improvements join the list of high priority efforts during the third stage, 2010–2020. See Gopal Ratnam, “New Office to Drive U.S. Navy Transformation,” *Defense News*, 8–14 April 2002, p. 6.
56. Clark, “Sea Power 21: Operational Concepts for a New Era.”
57. Some commentators have even suggested that the version of transformation advanced in Sea Power 21 amounts to little more than employing “sea” as an adjective in a series of bumper stickers.
58. John Keegan, *The Mask of Command* (New York: Viking, 1987).
59. “A permanent Mediterranean squadron was established in 1815 to keep the Barbary pirates in check.” Walter Russell Mead, *Special Providence: American Foreign Policy and How It Changed the World* (New York: Knopf, 2001), p. 26.
60. See Ronald O’Rourke, *Navy Network-centric Warfare Concept: Key Programs and Issues for Congress*, RS20557 (Washington, D.C.: CRS, 6 June 2001).
61. See Peter J. Dombrowski, Eugene Gholz, and Andrew L. Ross, “Selling Transformation: The Defense Industrial Sources of Sustaining and Disruptive Innovation,” *Orbis* 46, no. 3 (Summer 2002), pp. 523–36.
62. Although in a technical sense DD-21 was canceled, it seems clear that much of the preparation for DD-21 has merged directly into the DD(X) program.
63. It may be that even in a network-centric Navy spending on future programs will remain platform-centric. But the balance between spending on network-centric programs and platform-centric programs should shift in favor of the former more than it has thus far.
64. Transformation does not require that all navy programs be revolutionary, discontinuous, and disruptive. But the Bush administration’s characterization of transformation suggests that the balance between routine, sustaining innovation and potentially discontinuous, disruptive innovation should shift in favor of the latter more than it has thus far.
65. *QDR Report*, p. v; and Rumsfeld, *Annual Report*, p. 22.
66. *QDR Report*, p. 10.
67. *QDR Report*, p. 16. Also, on pp. 47–48: “This transformation will be conducted in a timely but prudent manner. In particular, prudence dictates that those legacy forces critical to DoD’s ability to defeat current threats must be sustained as transformation occurs. . . . DoD must overcome trends of the past to sustain a balanced defense program that maintains near-term readiness without mortgaging the long-term capabilities of the force.”
68. Dawson and Nathman, “Sea Strike,” p. 56.
69. Charles Hamilton [Rear Adm., USN] and Donald Loren [Rear Adm., USN], “It’s All in the Family,” U.S. Naval Institute *Proceedings* (August 2002), pp. 68–70.
70. However, recent designs for the Littoral Combat Ship look less like the “Street-fighters” (which were to have fought in “swarms”) proposed by Vice Admiral Cebrowski than like modern frigates.
71. Henry C. Mustin [Vice Adm., USN (Ret.)] and Douglas J. Katz [Vice Adm., USN (Ret.)], “All Ahead Flank for LCS,” U.S. Naval Institute *Proceedings* (February 2003), p. 32.
72. All data from David Brown, “Battle Bots,” *Navy Times*, 3 February 2003, pp. 14–16.
73. Author interview, June 2002.
74. Christopher J. Castelli and Jason Ma, “In Reversal, Navy Praises Fire Scout UAV, May Buy Improved Versions,” *Inside Defense.com*, 20 January 2003.
75. Jefferson Morris, “UAVs Prove Value to Submarines in ‘Giant Shadow’ Experiment, Captain Says,” *Aerospace Daily*, 30 January 2003.
76. *Ibid.*
77. Vernon Clark [Adm., USN], “Remarks,” 2002 Naval-Industry R&D Partnership Conference, Washington, D.C., 15 August 2002, available at [www.chinfor.navy.mil/navpalib/cno/speeches/clark-rdpc02.txt](http://www.chinfor.navy.mil/navpalib/cno/speeches/clark-rdpc02.txt).
78. On the role of the Navy, see Rodney P. Rempt [Rear Adm., USN], “Using the Oceans for Missile Defense,” address, 8 January 2002, available at [www.nwc.navy.mil/pres/speeches/rotary.htm#top](http://www.nwc.navy.mil/pres/speeches/rotary.htm#top).

79. We are indebted to our colleague Timothy Somes for this insight.
80. For a useful historical perspective, see Joseph F. Bouchard, "Guarding the Cold War Ram- parts: The U.S. Navy's Role in Continental Air Defense," *Naval War College Review* 52, no. 3 (Summer 1999), pp. 111–35.
81. Christopher J. Castelli, "DOD Panel Mulls Seabasing Ideas, including Mobile Offshore Bases," *Inside the Navy*, 18 November 2002. On the mounting opposition to MOBs, see Pat Towell, "Mobile Offshore Base' Proposal Has Slew of Powerful Opponents," *Congressional Quarterly Weekly* (15 February 2003), p. 382.
82. Christopher J. Castelli, "Navy Envisions MPFF(F) Multimission Sea Bases for DJC2 and Special Ops," *Inside the Navy*, 17 June 2002.
83. *Naval Transformation Roadmap: Power and Access . . . from the Sea* (Washington, D.C.: Dept. of the Navy, 2002), p. 5. ForceNet was rendered as "FORCEnet" in the NTR. For useful reportage on ForceNet see Gopal Ratnam, "New Office to Drive U.S. Navy Transformation," *Defense News*, 8–14 April 2002, p. 6; and Gail Kaufman and Gopal Ratnam, "U.S. Navy Releases Broad Transformation Outline," *Defense News*, 15–21 April 2002, p. 8.
84. "We have been talking about network-centric warfare for a decade, and ForceNet will be the Navy's plan to make it an operational reality." Clark, "Sea Power 21: Projecting Decisive Joint Capabilities," p. 34. As Mayo and Nathman, "ForceNet," put it, "ForceNet implements the theory of network-centric warfare" (p. 43).
85. With promises of "sensor-to-shooter closure . . . measured in seconds, instead of hours or minutes." Dawson and Nathman, "Sea Strike," p. 54.
86. With its "single integrated air picture." Bucchi and Mullen, "Sea Shield," p. 57.
87. Which is to ensure "battlespace dominance on, above, and below the sea," and access to the littorals. *Ibid.*, p. 58.
88. Which requires "expanded sensor coverage," "increased situational awareness by networking," and "sharing information with other services and agencies." *Ibid.*, p. 59.
89. Which are to enable the joint force to maintain operational autonomy and exploit the maneuver space of the sea. Moore and Hanlon, "Sea Basing."
90. *Ibid.*, p. 6.
91. Background on CEC, IT-21, and NMCI is provided in Ronald O'Rourke, *Navy Network-Centric Warfare Concept*. On IT-21 see J. Cutler Dawson, Jr., James M. Fordice, and Gregory M. Harris, "The IT-21 Advantage," U.S. Naval Institute *Proceedings* (December 1999), pp. 28–32. For Admiral Clark, Chief of Naval Operations, the NMCI is "the gateway to transformation." See Dept. of the Navy, *Electronic Business Strategic Plan 2001–2002*, available at [www.ec.navsup.navy.mil\\_eb/strategic\\_plan\\_toc.asp](http://www.ec.navsup.navy.mil_eb/strategic_plan_toc.asp).
92. NWDC, *Expeditionary Sensor Grid*, undated brief, p. 4. See also Robert Holzer, "Massive Sensor Grid May Reshape U.S. Navy Tactics," *Defense News*, 14 May 2001, pp. 1, 4; and Catherine MacRae, "Services, DARPA Doing Early Research on 'Expeditionary Sensor Grid,'" *Inside the Pentagon*, 21 June 2001.
93. NWDC, *The Expeditionary Sensor Grid: Gaining Real-Time Battlespace Awareness in Support of Information and Knowledge Advan- tage*, post-workshop draft, 19 June 2001, p. 3.
94. Previously, there had been a Director of Space, Information Warfare, Command and Control (N6) and a DCNO, Warfare Require- ments and Programs (N7).
95. We do not here attempt to provide an expla- nation of why the Navy's transformation enter- prise falls short of the expectations created by the Bush defense team. That would require another article. In the meantime, see the fol- lowing insightful piece: Thomas G. Mahnken, "Transforming the U.S. Armed Forces: Rhet- oric or Reality?" *Naval War College Review* 54, no. 3 (Summer 2001), pp. 85–99.
96. *Naval Transformation Roadmap*, p. 6.
97. *Ibid.*

## FROM KADESH TO KANDAHAR

### Military Theory and the Future of War

Michael Evans

*Only the dead have seen the end of war.*

PLATO

As the world enters the twenty-first century, it appears to be in the midst of revolutionary shifts in the character of international security, with the forces of information technology and globalization seemingly transforming the theory and practice of war. In retrospect, it is now possible to see the decade between the collapse of Soviet communism in August 1991 and the attacks on the Pentagon and the World Trade Center in September 2001 as an era of the unexpected. No one in the West expected, still less predicted, the fall of the Soviet Union; the Iraqi invasion of Kuwait and the Gulf War; the Asian financial crisis; the Indian and Pakistani nuclear detonations; or, of course, the events of 11 September.

Over the past decade, armed conflict has not remained within the traditional parameters of conventional warfare between rival states. From Somalia through Bosnia to Kosovo, East Timor, and Afghanistan, the face of war has assumed bewildering expressions. Under new global security conditions, the postmodern has collided with the premodern, the cosmopolitan has confronted the parochial, while the Westphalian state system has been challenged by new substate and transstate forces. Conventional high-tech Western armed forces have had to come to terms with a world of failed states populated by ethnic paramilitaries; of rogue regimes equipped with ballistic missiles and poison gas; and of radical ex-

tremists embracing a philosophy of mass-casualty terrorism.

For Western policy makers and military professionals these are deeply perplexing times; war seems more dynamic and chameleon-like than ever before. There are pressing questions: What is the future of war

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in conditions of great flux? Can traditional ideas of military power continue to dominate in an age of both globalization and fragmentation? What is the meaning of Western military supremacy in an era when democratic civilization—as demonstrated by the events of 11 September—is highly vulnerable to unexpected and unorthodox threats?

This article seeks to provide some answers to these questions. It adopts an approach reflecting a conviction that while events are always impossible to predict, it is possible to undertake intelligent analysis of trends in order to make some interim judgments about the kind of military conditions that might emerge in the near future. The article explores four areas. First, the fragmentation of the international system in the 1990s is analyzed in an attempt to demonstrate how new political conditions caused a diffusion of conflict modes that in turn have brought great uncertainty to the world of military analysts. Second, the main theories of war that emerged in the 1990s and the complexity these brought to traditional military thinking are examined. Third, a snapshot is provided of some of the most important challenges facing the West in terms of the theory and practice of the military art over the next decade and a half. Finally, some of the likely characteristics of warfare over the next decade are identified and subjected to tentative analysis.

### WAR IN THE 1990S: THE DIFFUSION OF CONFLICT

In the 1990s there appears to have been a major transition in international relations away from a mainly state-centered system toward one marked by greater interdependence and interconnectedness. This trend toward interconnectedness was propelled by the dual impact of globalization and its handmaiden, the information revolution. Together, these two forces appeared to have altered the context within which modern states operate, bringing about an apparent redistribution of power among states, markets, and civil society.<sup>1</sup>

From a military perspective, the globalization of the last decade is perhaps best described as a process in which space and time have been so compressed by technology as to permit distant actions to have local effects, and vice versa. The international system that emerged by the beginning of the twenty-first century was an interconnected world order in which regional and local military developments could be of global significance.

Defense analysts quickly discovered that conflict and disorder anywhere in the world could be quickly transmitted everywhere—and invested with crisis—by a pervasive global communications media, epitomized by the Cable News Network. It was also discovered that globalization is not a homogenous process but contains a striking paradox in that it brings about both convergence and divergence. The notion of interconnectedness and a heightened sense of global

consciousness are paralleled by polarization and particularism. As President William Clinton put it in April 1999, the West finds itself engaged in “a great battle between the forces of integration and the forces of disintegration; [between] the forces of globalism and the forces of tribalism; [of the forces] of oppression against [those of] empowerment.”<sup>2</sup>

In effect, by 2001 the contemporary international security system had bifurcated—that is, it had split between a traditional twentieth-century, state-centered paradigm and new twenty-first-century substate and transstate strata. The great change in the early twenty-first-century international system from that of the last quarter of the twentieth century is the transition away from a dominant state-centric structure toward one marked by a greater number of substate and transstate actors. With bifurcation came a reduction in the relative significance of strategic geography, simply because the globalization of the information era appeared no longer to allow any state or society to retreat behind physical or moral borders.<sup>3</sup>

It is very important to understand clearly what is meant by the “relative decline” of strategic geography. In no sense does such a phrase imply “the end of geography” in the same sense that Francis Fukuyama famously spoke of “the end of history.”<sup>4</sup> In terms of logistics, campaign planning, and topographical analysis, geography remains fundamental to the art of war, while geopolitics remains

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*In expeditionary warfare, the main need is to reconcile operational versatility with organizational stability.*

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an important component of statecraft.<sup>5</sup> Nonetheless, a shift away from territoriality toward connectedness has diminished the effect of strategic geography as a

primary rationale for defining a nation’s defense and national security postures. The process of this transformation—in which older forms of linear conflict have been supplemented by new forms of nonlinear conflict—has been recognized by both Western and non-Western strategists. For example, the leading American strategic analyst Phillip Bobbitt has observed, “National security will cease to be defined in terms of borders alone because both the links among societies as well as the attacks on them exist in psychological and infrastructural dimensions, not on an invaded plain marked by the seizure and holding of territory.”<sup>6</sup> Similarly, two Chinese strategists have argued that we are entering an age of unrestricted warfare in which “there is no territory that cannot be surpassed; there is no means which cannot be used in . . . war; and there is no territory or method which cannot be used in combination.”<sup>7</sup>

The result of globalization over the past ten years has been the development of an unpredictable and complex pattern of armed conflict. Under conditions of global strategic bifurcation the old distinctions—between civil and

international conflict, between internal and external security, and between national and societal security—began to erode. It has become clear that in an era in which various transnational and substate forces were greatly empowered by technology, such issues as civil conflict, terrorism, and the proliferation of weapons of mass destruction could no longer be easily quarantined within states or regions. From the early 1990s onward, these phenomena emerged as global strategic threats precisely because they acted to blur the distinction between internal and external crises. Under new conditions, transnational and substate forces threaten not just states but entire societies and thus the fabric of international stability itself. Consequently, traditional ideas about warfare have come under challenge as the political, economic, and military dimensions of security have more closely merged and state-on-state war seems to have been supplemented by new forms of substate and transstate conflict.<sup>8</sup>

The changing character of conflict and war mirrored the bifurcation of the international security system in the 1990s. The various views expressed about the future of military conflict reflected the post–Cold War fragmentation of international security and the diffusion of contemporary war into a variety of different modes. War became at once modern (reflecting conventional warfare between states), postmodern (reflecting the West’s cosmopolitan political values of limited war, peace enforcement, and humanitarian military intervention), and premodern (reflecting a mix of substate and transstate warfare based on the age-old politics of identity, extremism, and particularism).<sup>9</sup> It is important to note that none of these categories represents neatly divided compartments of activity; they overlap and interact with each other. The U.S. Marine Corps’s recent doctrine of the “three-block war”—in which troops may be engaged in a conventional firefight, peace operations, and humanitarian relief simultaneously in a single small area—captures the essence of this complex interaction.<sup>10</sup>

However, if modern, postmodern, and premodern forms of war overlap with each other, each mode has distinctive features. Modern war remains symbolized by a classical doctrine of “encounter battles,” collisions of rival states’ armed forces moving on land, in air, and at sea. This is a mode of classical warfare that can be traced back to the first properly recorded battle in history, in which the Egyptians defeated the Hittites in a chariot and infantry battle at Kadesh in 1285 B.C. The most recent model (at this writing) of armed conflict by encounter battle is the 1991 Gulf War, when Western and Iraqi forces employing missiles, tanks, and mechanized infantry clashed in the deserts of Kuwait.

In the West’s public consciousness, modern war is based on high technology and the conventional force-on-force warfare of the kind associated with the two world wars, Korea, and the Gulf. In contrast, postmodern war is mainly characterized by the extremes of Western risk aversion, since for the Western powers

the stakes seldom involve issues of vital security or national survival. Postmodern war is based on high-tech aerospace power, casualty limitation, and cautious exit strategies, such as we saw during the Kosovo conflict of 1999. In many key respects, the war over Kosovo was the model of a postmodern conflict. It was, to borrow David Halberstam's ironic phrase, "war in a time of peace"—a conflict carefully calibrated, enabled by high-tech weaponry, with its course determined by Western opinion polls.<sup>11</sup> However, postmodern conflict based around high-technology aerospace power has created its own antithesis—asymmetric warfare, including the threat of weapons of mass destruction, waged against Western society.<sup>12</sup>

For its part, premodern war is symbolized by the images of "blood and iron" the West now allegedly abhors. Premodern war is essentially social rather than technological in character; it is an expression of the existential rather than the instrumental aspect of warfare.<sup>13</sup> Those who wage such struggles may choose to sport middle-class suits and exploit the spread of advanced technology, but their mind-sets are mixtures of the antimodern, the millenarian, and the tribal. Such radicals embody what Pierre Hassner has called "the dialectic of the bourgeois and the barbarian."<sup>14</sup> Premodern conflict merges unconventional—to use the term *du jour*, asymmetric—warfare methods with the conventional or semiconventional military activities of failed states. The premodern model of conflict also tends to exploit the rise of nonstate actors, cultural identity politics, and ethnopolitical conflict. In many respects, premodern war represents a cultural revolt against the philosophy of Western liberal globalism; it is a conscious rejection of the universal values based on cosmopolitan democracy that followed Western victory in the Cold War. For many premodern radicals, the social order offered by globalization is anathema; it appears to them a facsimile of the secular, materialistic, and trivial world inhabited by Homer Simpson. For millenarian radicals of political Islam like Osama Bin Laden, the West's alleged cults of hedonistic individuality and intellectual relativism threaten societies that seek to define themselves by collective spirituality and timeless cultural traditions.<sup>15</sup>

Premodern struggles embrace aspects of substate or intrastate civil conflict and ethnic cleansing ranging from Bosnia through Somalia to East Timor. Unlike the old national-liberation insurgents of the Cold War era, premodern radicals are more concerned with age-old cultural identity than the universal class ideology of Marxism; with a strategy of population displacement rather than winning popular support; and with sectarianism and secession rather than building inclusive model societies. One of the biggest changes in contemporary military affairs, then, has been the obsolescence of the Cold War political model of unconventional warfare and, as a result, of much of the West's counterinsurgency theory.<sup>16</sup>



When distilled to basics, these three overlapping models of modern, postmodern, and premodern war provide us with two vividly contrasting images of future conflict—one that is mainly symmetric and one largely asymmetric. On one hand, we have the blend of modern and postmodern war seen in the 1991 Gulf War and waged in the air over Kosovo in 1999 to serve as a grim metaphor of Western supremacy in any conventional conflict. However, on another level, we are confronted with a strange mixture of premodern and postmodern conflict—a world of asymmetric and ethnopolitical warfare—in which machetes and Microsoft merge, and apocalyptic millenarians wearing Reeboks and Raybans dream of acquiring weapons of mass destruction. To use a Hollywood analogy, it is as if the West's Buck Rogers were now lined up against assorted road warriors from the devastated society portrayed in the "Mad Max" films.

### MILITARY THEORY IN THE 1990S

The fragmentation of war has been mirrored in the world of strategic analysis. In the 1990s, military theory reflected the rapid diffusion of conflict following the end of the bipolar Cold War world. Multiple new theories of armed conflict appeared in the first half of the 1990s. At the beginning of the decade, the American analyst John Mueller gave us the "obsolescence of major war" theory, which argued that war in the advanced West was as outmoded as slavery and dueling.<sup>17</sup> The Israeli scholar Martin van Creveld followed Mueller by declaring that the Gulf War was a historical freak, a throwback to World War II rather than a vision of twenty-first-century war. Van Creveld argued that the long era of interstate war first codified by the Prussian philosopher Carl von Clausewitz in the early nineteenth century had ended. What he described as Clausewitzian "trinitarian war"—based on the nexus between people, government, and armed forces—was dead, and Western military theory derived from classical warfare had become obsolescent.<sup>18</sup>

The American futurists Alvin and Heidi Toffler then gave us the theory of "third wave" high-technology information warfare that helped initiate the "revolution in military affairs" debate.<sup>19</sup> According to the Tofflers and the information-age warfare theorists who followed them, the Gulf War provided a glimpse of postmodern war as the realm of high technology. Precision strike, "dominant battlespace knowledge," and stealth platforms would shape future conflict. In the 1990s RMA-style ideas dominated American force planning for a future based on fighting two major theater wars, as enshrined in the Pentagon's blueprint *Joint Vision 2010*.

In contrast, military writers like Robert Kaplan, Philip Cerny, and Ralph Peters proceeded to give us a vision of future war in which the form of social organization involved was far more important than the level of technology

employed.<sup>20</sup> For Kaplan, the war of the future was the “coming anarchy” of a Hobbesian world of failed states; for Cerny it was the “neomedievalism” of warlordism and violent disintegration; and for Peters it was a struggle by Western forces waged against a world of warrior cultures and paramilitaries from Mogadishu to Grozny. In 1996 Samuel P. Huntington published his seminal study of a coming “clash of civilizations” in which conflict between world cultures and “fault-line wars” would dominate the geopolitical future.<sup>21</sup> Finally, in 1999, the British analyst Mary Kaldor put forward a theory of “new wars” in which identity politics and the privatization of violence would challenge the new global order.<sup>22</sup>

By the turn of the century, the West was awash in a world of competing ideas about the future of armed conflict. War and conflict had, in effect, split like an unraveling rope’s end into a multiplicity of strands. War could be whatever one sought in the cookbook of theory: it could be desert combat in the Gulf, street fighting in Grozny, or something between the two. Armed conflict could be asymmetric or low-intensity style “fourth generation” conflict waged by guerrillas and terrorists against the West’s conventional military supremacy. In addition, the ominous New Terrorism of nuclear, chemical, and biological warfare conducted by rogue nations and nonstate entities was also viewed by some analysts as representing a form of “nontraditional warfare.”<sup>23</sup>

#### FROM THEORY TO PRACTICE: THE CHALLENGE OF FUTURE WAR

Given the proliferation of military theory and uncertain political conditions, what are the possible contours of future warfare over the next decade? What cautious speculations can we make about emerging trends? In September 1999, the bipartisan U.S. (Hart-Rudman) Commission on National Security/21st Century stated:

The future strategic environment will . . . be one of considerable turbulence. . . . The international system will be so fluid and complex that to think intelligently about military issues will mean taking an integrated view of political, social, technological, and economic developments. Only a broad definition of national security is appropriate to such a circumstance. In short we have entered an age in which many of the fundamental assumptions that steered us through the chilly waters of the Cold War require rethinking. . . . The very facts of military reality are changing, and that bears serious and concentrated reflection.<sup>24</sup>

If the Hart-Rudman Commission’s judgment about the facts of military reality changing is correct—and many, including the present author, believe it is—those concerned with preparing for armed conflict in the early twenty-first century must expect to confront a range of old, new, and hybrid forms of armed conflict. During the Cold War, the West confronted a unidimensional threat from

the Marxist-Leninist Soviet Union—an adversary whose motives were certain and whose moves were predictable. In the new century, such conditions no longer apply. In the words of the present U.S. secretary of defense, Donald H. Rumsfeld, new military thinking is now required to arm Western societies “against the unknown, the uncertain, the unseen, and the unexpected.”<sup>25</sup>

It has become imperative that all concerned with security issues pay greater attention to the merging of previously discrete forms of war. The conceptual basis for the study of warfare in the West must now be broadened to include a rigorous study of the interaction between interstate, substate, and transstate

conflict and of the diffusion of contemporary military capabilities. We have to recognize that in an interconnected age, linkage and interdependence seem to pervade all aspects of armed conflict.

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*It is as if the West's Buck Rogers were now lined up against assorted road warriors of the "Mad Max" films.*

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Military analysts and force-structure specialists need to concentrate on the multifunctional use of force in highly complex operations. In addition, military professionals must learn to embrace the challenges of proportion, coercion, and dissuasion as well as the older tradition of battlefield destruction. In particular, what the U.S. Hart-Rudman Commission has described as “the spectrum of symmetrical and asymmetrical threats we anticipate over the next quarter century” must receive increased attention from both military theorists and policy makers.<sup>26</sup> In short, the challenge is to prepare for full-spectrum conflict.

The task will be much harder than many defense analysts realize. The notion of a spectrum of conflict is not a new idea, but for most of the Cold War the Western understanding of war was based on generic intellectual categories of “conventional” (high-intensity) and “unconventional” (low-intensity) conflict. Most in the field of strategic studies thought in terms of separate worlds of conventional interstate (or high-intensity) and unconventional intrastate (or low-intensity) military activity. Unfortunately, the spectrum of conflict that is emerging in the early twenty-first century is distinguished by merged categories, multidimensionality, and unprecedented interaction.<sup>27</sup>

In an era when all security issues are interconnected and when the national security of Western states has become critically dependent on international security, single-scenario strategies and rigid military force structures have become anachronistic. Traditional concepts of deterrence and defense need to be supplemented by new doctrines of security preemption, security prevention, and expeditionary warfare. Moreover, the clear separation of peace and war must be supplemented by an acknowledgment that modes of war have merged. In a new age marked by networks and instant communications, the need is for advanced

military forces with skills useful across a range of tasks that may involve preventive deployment, preemptive strike, war fighting, peace enforcement, traditional peacekeeping and peace building, and counterterrorism.<sup>28</sup>

However, the intellectual challenge facing military professionals is not, as Martin van Creveld would have us believe, to consign Carl von Clausewitz and two thousand years of Western military knowledge to the dustbin of history. Rather, the task is to learn how to fight efficiently across the spectrum of conflict. No responsible Western military theorist can accept at face value the thesis of the “obsolescence of conventional war” or the paradigm of asymmetric warfare as primary force planning or doctrinal determinants. In a dangerous and unpredictable world, military professionals and their political masters must prepare to fight in conditions of a “high-low mix”—to be ready to tame the big wildcats and not simply the vicious rodents, to be able to fight troops like Iraq’s former Republican Guard as well as Taliban, al-Qa’ida militia, and terrorists. As every good operational commander knows, in the military art one can “trade down,” but one can never “trade up.” Moreover, all the evidence indicates that success in peace-support operations requires the kinds of conventional firepower, mobility, and force protection available only to military establishments that are optimized for conventional warfighting.<sup>29</sup>

Readying ourselves for conventional war does not, however, absolve us from undertaking a major transformation in the way we think about the use of military force. The most pressing intellectual task at the crossroad of the old and new centuries is rapid adaptation to new and merging forms of conflict. In the West we have to reconcile how we would like to fight with how we might *have* to fight. We must try to synthesize relevant features from the massive literature on the classical Gulf War/RMA model of warfare with the changing reality of conflict—both conventional and unconventional—as it presents itself. We have to undertake an intellectual exploration of the growing interaction between interstate, substate, and transstate conflict and conduct a rigorous investigation of the phenomenon of merging war forms—internal, international, postmodern, modern, and premodern.

The merging of modes of armed conflict suggests an era of warfare quite different from that of the recent past. Fighting in the future may involve conventional armies, guerrilla bands, independent and state-directed terrorist groups, specialized antiterrorist units, and private militias. Terrorist attacks might evolve into classic guerrilla warfare and then escalate to conventional conflict. Alternatively, fighting could be conducted on several levels at once. The possibility of continuous, sporadic, armed conflict, its engagements blurred together in time and space, waged on several levels by a large array of national and subnational forces, means that the reality of war in the first decade of the

twenty-first century is likely to transcend a neat division into distinct categories, symmetry and asymmetry.<sup>30</sup>

Indeed, it is arguable that the main reason for much of the intellectual confusion surrounding war at the turn of the century stems from the lack of a conceptual synthesis between the requirements of traditional conventional war and the emerging blend of interstate, transstate, and nonstate modes.<sup>31</sup> It is no accident that the most productive areas of military theory have been those that have attempted to concentrate on the expanding phenomenon of war. The most interesting new approaches have come from those who have endeavored to examine the growing complexity of conflict, its holistic yet multidimensional character, its sociological as well as technological dynamics. Conceptual progress has come from analytical work into war's connection to society as well as to the state; from assessing the convergence of modes of conflict and the growing requirements to control armed violence in an age of instantaneous media imagery; and from developing multipurpose forces that can wage warfare across the spectrum of conflict.

In short, it is the interactive character of war—Clausewitz's famous chameleon "that adapts its characteristics to the given case"—that has proven the most original avenue for analysis.<sup>32</sup> The immediate future of war lies perhaps in two key areas. The first is the realm of multidimensional theories of war and conflict that call for multifunctional forces for intervention missions; the second is the evolving theory of counterwar, or "mastery of violence," which may assist military practitioners and policy makers to understand and deal with armed conflict as a multifaceted phenomenon.

### *A Multidimensional Approach to War and Conflict*

As twenty-first-century war becomes, in the words of the prominent Russian military theorist Makhmut Gareev, "a multivariant," advanced armed forces need to develop multidimensional approaches to conflict.<sup>33</sup> The most interesting American and British military theory reflects a growing recognition that in a new age of multiple threats, discrete categories of conventional and unconventional conflict are eroding, along with corresponding legal and moral restraints.

Much of the West's preparation to meet an accelerating convergence of military challenges is shaped by three ideas. First, there is a general acceptance that armed forces must be able to adapt to differing modes of war, to become multifunctional. Second, as questions of both national and societal security merge and interpenetrate, reactive operational strategies alone become inadequate as means of deterrence. Security in the new era of liberal globalism also requires a willingness to undertake interventions, as well as, correspondingly, proactive military forces. Third, if global political and technological conditions

permit radical groups and rogue states to use ballistic or biological weapons to inflict mass casualties on democratic societies, this new challenge must be met by military preemption in ways not seen since the late nineteenth century. In other words, those who espouse the mass murder of innocent civilians in cities and suburbs must be destroyed wherever and whenever preemption is possible. As President George W. Bush put it recently, it is necessary for the West to act decisively against the new threat emanating from “the perilous crossroads of radicalism and technology.”<sup>34</sup> Specifically, the diffusion of advanced technology, from standoff missiles to commercial space systems to weapons of mass destruction, into the hands of smaller armies, paramilitaries, militias, and other armed groups puts a premium on Western expeditionary warfare.

Two leading American military theorists, Huba Wass de Czege and Richard Hart Sinnreich, have recently given an unequivocal view of the merging of conventional and unconventional conflict:

Clear distinctions between conventional and unconventional conflicts are fading, and any future major conflict is almost certain to see a routine commingling of such operations. Similarly, once useful demarcations between front and rear or between theater and strategic operations will continue to evaporate as the instrumentalities of war become more interdependent and, as is increasingly true of communications and space systems, less easily separable from their civilian and commercial counterparts.<sup>35</sup>

As a result, the future requirement will be for joint forces designed for multi-dimensional, expeditionary-style operations—what the U.S. Army now refers to as “operational maneuver from strategic distance.” Such operations are vital to control theaters where “high-low” threats and varied forms of conflict might be expected. Consequently, the main trends in contemporary Western military theory are toward operations with multinational and joint task forces with simplified headquarters structures—not simply corps and division, but increasingly force and formation. Smaller combat formations, such as the combined-arms brigades to serve modular building blocks for forces in the field, are needed.<sup>36</sup> Force structures will become more modular and capable of rapid task force organization from “golf bags” of varied military capabilities.<sup>37</sup>

In expeditionary warfare, the main need is to reconcile operational versatility with organizational stability. Western forces must be capable of undertaking joint, multidimensional missions ranging from shaping the environment to air-ground operational maneuver, to all-out conventional warfare. The demands of operational versatility are likely to place a premium on organizational change.



*Multifaceted Conflict: Counterwar Theory and Mastery of Violence*

Recent trends in European-American military theory toward multidimensional operations have also been applied to what some European military thinkers now call “counterwar theory,” or the “mastery of violence” as an operational military strategy.<sup>38</sup> In France, the development of counterwar theory reflects the perception that war in the twenty-first century has become “a mixture of phenomena.” Some French military thinkers believe that in contemporary armed conflict it is largely impossible to treat war as merely a clash between rival forces; that the conventional cannot be separated from the unconventional; and that traditional lines of authority between military control and political responsibility are becoming blurred.

A military force may now be required to conduct intervention operations in conditions that correspond to neither classical warfare nor traditional peace-support operations. Extremely complex political conditions may arise in which law and order are lacking but the law of armed conflict must nonetheless, and at all costs, be upheld; in such a case a counterwar strategy, the disciplined control of violence, may have to be imposed. As French military analysts Brigadier General Loup Francart and Jean-Jacques Patry observe, “Military operations are now completely integrated with political, diplomatic, economic and cultural activities. Strategy is no longer simply a matter of defense. The problem is now, more than ever, *to conceive military operations in a political framework*.”<sup>39</sup>

General Wesley K. Clark, the American commander who prosecuted Nato’s 1999 war against Serbia over Kosovo, has argued that politics in modern war now pervades all of the three levels of war—tactics, operations, and strategy. In the past, politics was mainly a factor at the strategic level, where statecraft guided the military instrument. However, in the early twenty-first century, politics also now impinges on the operational and tactical levels of war, Clark believes, to the extent that it may be necessary to speak of a “political level of war.” If General Clark is right, the implications for future civil-military relations are profound.<sup>40</sup>

In an age of increased military-political integration and twenty-four-hour electronic media, the goal of force may be not annihilation or attrition but calibrated “elimination of the enemy’s resistance” by the careful and proportional use of counterviolence. The use of armed force in a surgical manner—the rapier rather than the broadsword—would require that military thinking and action be politically sophisticated, legally disciplined, and ethically correct. These needs were among the main lessons of the Kosovo conflict.<sup>41</sup> As French military theorists have argued, the aim must be to ensure that the application of force in intervention operations—especially in an age of instant images—can be modulated and shaped by professional militaries to accommodate rapidly shifting politics and flexible operational and strategic objectives.

## WARFARE IN 2015: A TENTATIVE ANALYSIS

Given the growing complexity of the military art and of the use of force in statecraft, what are the characteristics of warfare most likely to be over the next decade? Four basic sets can be tentatively offered. First, war is likely to remain a chameleon, presenting itself variously in interstate, transstate, and nonstate modes—or as a combination of these. However, a word of caution is necessary: it would be a serious mistake to dismiss the possibility of interstate conventional war. If in some areas of the world, such as Western Europe, it is highly improbable, in much of Asia and the Middle East it remains a distinct possibility.<sup>42</sup> Nonetheless, in general terms, the merging of modes of armed conflict does suggest an era of warfare in which national, transstate, and substate forces may coalesce or find themselves in mismatched confrontations. Moreover, the conventional and the unconventional, the symmetric and the asymmetric, may occur almost simultaneously, overlapping in time and space.

Second, advanced warfare will be largely joint-service in character. The revolution in information technology, especially as applied to command and control, long-range precision strike, and stealth, has so compressed time and space in military operations as to create an unprecedented nonlinear battle space characterized by breadth, depth, and height. During the 1990s, the concept of “battle space” replaced the linear battlefield that had defined armed conflict in the Western tradition from Alexander the Great to the Second World War. In essence, the concept of battle space has permitted a shift away from the organization of linear mass toward a simultaneous and “full-dimensional” concentration of *effects*.<sup>43</sup> This is especially significant with regard to the cumulative impact of missile firepower from air, ground, and sea.<sup>44</sup>

Third, most Western military experts believe that future operations will favor simultaneous attack by joint air-ground forces that are “situationally aware”—that have substantially complete and current views of the battlespace via computer and satellite. Advanced forces are also likely to be networked from “sensor to shooter”—that is, surveillance capabilities will be electronically connected to strike forces, and all of them to each other.<sup>45</sup> There will probably be fewer troops deployed on the ground, but the individual soldier—the “strategic corporal”—will have a greater potential impact on events. Growing weapons lethality and increased ability of soldiers to direct long-range precision “fires”—as seen in Afghanistan, where ground forces acted as highly effective sensors for air strikes—are likely to become features of warfare over the next decade.<sup>46</sup>

Fourth, the dominance of surveillance and strike means that joint operations by technologically advanced forces, capable of deep precision attack and quick maneuver, are likely to resemble large-scale ambushes. If an enemy can be remotely located, traditional movement to contact preceded by forward troops

probing for the enemy will be replaced by well-prepared, deliberate, “deep” attacks using tactics that exploit rapid positioning for maximum effect. However, precision munitions are likely to be of limited use in close operations, in which infantry must be employed to finish off adversaries.<sup>47</sup>

In the close battle, armored forces and artillery are likely to remain extremely useful in applying suppressive fire in support of troops in action. In the recent campaign in Afghanistan, American forces put their faith in air cover at the expense of both artillery and tanks. It was soon discovered that while precision munitions delivered from high altitude are effective against known point targets, they are much less useful in area attack, as is necessary against forces that are scattered, not precisely located. The majority of American casualties (twenty-eight out of thirty-six) in Operation ENDURING FREEDOM came from enemy mortar fire that could have been suppressed by armor or artillery. The lesson learned from fierce combat in the complex terrain of Afghanistan’s Shah-i-Kot region is that for area suppression, field guns and tanks remain essential in twenty-first-century warfare.<sup>48</sup>

The likely shape of war in the early twenty-first century essentially reflects the consequences of a bifurcated global system between an older state-centric world, on one hand, and new transstate and substate strata on the other. The West has entered a period in which classical interstate war has been supplemented by borderless threats from nonstate actors operating with the power of modern computers, ease of international travel, and, possibly, weapons of mass destruction, with which they can deal lethal blows to any society.

These trends, particularly the unholy alliance between new nonstate actors and advanced technology, collectively point to an urgent need for new strategic thinking. The shift toward connectedness and nonlinearity at the relative expense of territoriality and linearity has become perhaps the central reality of strategy in the opening years of the twenty-first century. Some international observers believe the strategic shift from territoriality to connectedness will be revolutionary in its consequences:

We are at a moment in world affairs when the essential ideas that govern statecraft must change. For five centuries it has taken the resources of a state to destroy another state; only states could muster the huge revenues, conscript the vast armies, and equip the divisions required to threaten the survival of other states. . . . This is no longer true, owing to advances in international telecommunications, rapid computation, and weapons of mass destruction. The change in statecraft that will accompany these developments will be as profound as any that the State has thus far undergone.<sup>49</sup>

The great danger to Western countries is no longer the threat of military invasion of the nation-state but an assault on the very foundations of our networked society. Western societies are now most vulnerable not from external invasion but from internal disruption of the government, financial, and economic institutions that make up critical infrastructures.<sup>50</sup>

It was this great weakness that al-Qa'ida exploited with such devastating results on 11 September 2001. Increasingly, national security now depends on the protection of a specific set of social institutions and the information links between them. However, our reliance on critical infrastructures vastly exceeds our ability to protect them; it is therefore impossible to protect an entire society solely by "homeland defense."

To defend Western societies, the nation-state model of war based upon threat analysis and against defined enemies will have to be supplemented by new

modes of strategic thought that concentrate on alleviating the vulnerabilities of modern states to new nonstate threats. As the French military analyst Phillippe Delmas has warned, "Today's

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*The war over Kosovo was, to borrow David Halberstam's ironic phrase, "war in a time of peace."*

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world is without precedent. It is as different from the Cold War as it is from the Middle Ages so the past offers no basis for comparison. . . . Tomorrow's wars will not result from the ambitions of States; rather from their weaknesses."<sup>51</sup>

To meet the challenges of tomorrow's wars, Western countries will need highly mobile, well equipped, and versatile forces capable of multidimensional coalition missions and "mastery of violence" across a complex spectrum of conflict. They will need new national security apparatus for threat and vulnerability analysis and consequence management in the event of traumatic societal attack. They will need enhanced international intelligence and diplomatic cooperation to ensure that military force is employed with maximum efficiency. They will need new norms of international law that allow joint armed forces to be used, when the enemy can be located, in far-flung preemption operations.<sup>52</sup>

The reality of Western societal vulnerability in conditions of liberal globalism represents a strategic transformation that obliges defense experts and politicians to think rigorously about the kinds of war that might lie ahead. We are confronted with a challenge of finding new ways of using force in merged modes of conflict in an international system that must confront simultaneously both integration and fragmentation.

The problems facing policy makers, strategists, and military professionals in the early twenty-first century, then, have changed dramatically and decisively from those of the twentieth. Military power and capability have expanded into a

network of transnational interconnections. As a result, preparing for armed conflict is no longer only a matter of simply assembling battlefield strength to destroy defined adversaries.

Increasingly, military power is entwined in politics—as an instrument that shapes, polices, and bounds the strategic environment, that punishes, signals, and warns. The task for strategists is now one of disciplining available military power into a broad security strategy—one that embraces also diplomacy, intelligence analysis, and law enforcement—in a calibrated, judicious, and precise manner. In the prophetic words, written over thirty-five years ago, of the British strategist Alastair Buchan, “The real content of strategy is concerned not merely with war and battles but with the application and maintenance of force so that it contributes most effectively to the advancement of political objectives.”<sup>53</sup> At the dawn of a new century, of a new and uncertain era in armed conflict in a globalized yet deeply fragmented world, these words aptly describe the many dangerous challenges that lie ahead.

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#### NOTES

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7. Qiao Liang and Wang Xiangsui, *Unrestricted Warfare* (Beijing: People’s Liberation Army Literature and Arts Publishing House, 1999), p. 199.
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11. David Halberstam, *War in a Time of Peace: Bush, Clinton and the Generals* (London: Bloomsbury, 2001), esp. chaps. 39–43. The Kosovo conflict is well analyzed in Bacevich and Cohen, eds., *War over Kosovo*.
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16. See Avi Kober, "Low-Intensity Conflicts: Why the Gap between Theory and Practice?" *Defense & Security Analysis* 18, no. 1 (March 2002), pp. 15–38, and Harkavy and Neuman, esp. chap. 5. See also Max G. Manwaring, *Internal Wars: Rethinking Problems and Responses* (Carlisle Barracks, Penna.: U.S. Army War College, Strategic Studies Institute, September 2001), pp. 25–34.
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## IN MY VIEW

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### IS THERE REALLY “EROSION OF CIVILIAN CONTROL”?

Madame:

Richard H. Kohn’s article [“The Erosion of Civilian Control of the Military in the United States Today,” Summer 2002, pp. 9–59] is one of the most thought-provoking pieces I have read in the *Review*. I have now read it three times over several months and must comment.

Kohn acknowledges the oath of officers of the United States, “to support and defend the Constitution . . . against all enemies, foreign and domestic . . . and that I will well and faithfully discharge the duties of the office upon which I am about to enter.” However, I do not think he realizes that most military dissent is based firmly on that oath, rather than in contradiction to it. Unquestioning obedience and compliance with orders that are contrary to that oath are neither intended nor expected by the Constitution. The United States is governed by a system of separated powers, of course. In this, the military has two masters. Military officers are in the military chain of command that extends to the president as commander in chief. But this subordination is not complete. The oath of office does not specify “and obey the orders of the president and the officers appointed over me,” as does the noncommissioned oath. Enlisted personnel are required to obey strictly, but members of the officer corps retain moral, ethical, and legal responsibility for their actions. The professional military officer is responsible not only to his or her chain of command but to Congress, which represents the general public to at least the same degree as does the president. In its role, Congress expects and requires honesty and professional judgment from military witnesses, not simply a paraphrase of administration policy. Every congressman, and every military officer who testifies before Congress, understands this implicit ground rule. When one represents the administration or speaks from a role in the administration, one is obligated to present the administration’s case as best as one can, without personal or professional bias. But if officers are asked for

their *professional* opinions, they are equally obligated to be frank and forthright with the members of Congress.

I agree with Dr. Kohn that public statements by active-duty officers in opposition to administration policy are not appropriate; nor are leaks to “friendly” newsmen (or academics) designed to undermine an administration program or policy. But I would argue that Dan Ellsberg’s “leak” of the Pentagon Papers was a similar offense against the administration and should be viewed in that light. Ellsberg knew what he was doing but believed strongly enough in his position to run the risk of, perhaps even to expect, prosecution. Was he a traitor or a patriot? I suggest he was an organizational traitor but a fervent patriot and that he did *not* violate his oath of office. Rather he honored it, despite the personal cost.

It seems to me that Professor Kohn’s prescription for professional military officers is not far from that required by Hitler of the Wehrmacht’s officer corps. Unquestioning obedience and unconditional subordination of the military to presidential control is inappropriate in a democracy. Rather, our admittedly messy system, with its separation of powers and unclear demarcation of powers, demands of our military leaders a dual organizational loyalty to support and assist both the executive branch and the Congress, approval of which is required by the Constitution on questions of defense, on peace and war. The ultimate referent for all the players in this continuing drama is the Constitution itself.

Honest men and women will disagree on serious issues. These require serious consideration of alternative viewpoints. To this end, the Congress will not and should not accept the muzzling of military dissent in their hearing rooms, when those witnesses are asked for their personal or professional perspectives. Congress has no difficulty sifting through controversial subjects. That is its primary task, and although the sifting too is a messy process, it usually produces a solution better than the strictly bureaucratic one.

Military officers have a deep and abiding commitment to the oath of office, a commitment that can transcend organizational loyalty and strict subordination to the executive branch. This is emphatically *not* a denial of civilian control but recognition that Congress is also a player in the game and that military officers owe them loyalty and professional advice, too—always, when they are asked for it, sometimes privately even when not asked. When officers retire, in my view, they regain all their civil rights of dissent—just as former presidents do. We may often deplore the result in both cases, but we should not try to muzzle either category of former officials.

In 1948 the Marshall Plan was finally approved by the first Republican Congress in twenty years, largely on the basis of a perceived East-West crisis, precipitated largely by the coup d’état in Czechoslovakia. The mood was also used by Secretary of Defense James Forrestal and the Joint Chiefs of Staff to gain

approval for the Harry S. Truman administration's modest increases in military spending. In closed-door testimony, when asked for their personal opinions on how much was needed, the chiefs gave figures well beyond those requested by the administration, which was deeply concerned with possible deficits and inflation. Congress subsequently approved more than the administration wanted. Truman allowed the services to use most of this windfall but sequestered the funds for a seventy-group Air Force and returned them to the treasury at year's end. Were those chiefs disloyal to Forrestal and Truman? Neither man apparently thought so. But the chiefs did not speak in advocacy outside the closed hearings. They did their duty and allowed the separation-of-powers mechanism to sort out the policy. Many of those officers in 1948 were Republicans confronting a Democratic administration—Dwight D. Eisenhower, Lucius D. Clay, Curtis LeMay, and most of the Navy hierarchy come to mind. No doubt many of them had strong reservations about Truman personally. But they remained loyal to the office of the president, as did Truman himself. Truman honored his military subordinates publicly and privately, and he never expressed contempt for them, as did William Clinton and some of his associates. One of the basic lessons for young officers is this: Loyalty from your troops has to be required, but you must *earn* their respect. Many of us (I am a retired officer) feel that Clinton never earned our respect, then or now, but we readily transferred our institutional loyalty for the president to George W. Bush, with a sigh of relief in many cases.

Truman subsequently fired General Douglas MacArthur for insubordination, on the strong and unanimous advice of the Joint Chiefs of Staff and General George C. Marshall, then secretary of defense. Truman could accept MacArthur's contempt for Harry Truman, but he could not and would not tolerate his insubordination to the commander in chief. Was MacArthur acting outside his oath of office? He clearly disagreed with national policy and sought to change it via public pronouncements and private communications to members of Congress. Was he a traitor to that oath and to the Constitution? I do not think so. He *was* insubordinate and so had to be removed from his office, which was the appropriate penalty. Significantly, there was never a thought of prosecuting him for violation of his oath of office. I expect that MacArthur acted throughout in the belief that he was in compliance with that oath.

Civil-military relations are a good deal more complex in our system than in the Prussia of the eighteenth and nineteenth centuries or Germany in the early twentieth century—thank goodness! Had we lived to Kohn's prescriptions, Alfred Thayer Mahan's concepts of seapower and Hyman Rickover's marvelous triumph of technology would have been stillborn in the Navy Department and within the administrations of their day. We might still be fighting in Vietnam, and in the Balkans. The Marine Corps might have been abolished. There are

dozens of outcomes that have been affected by thoughtful dissent by professional military officers, who carry an inherent responsibility to the president, the Congress, and the Constitution beyond.

The whole concept of a Praetorian coup d'état is so far-fetched that even a good novel like Fletcher Knebel and Charles W. Bailey's *Seven Days in May* (1962) just did not ring true to anyone in the military. It seems to me that in the current scheme the professional military is much more likely to be a hedge against an attempted executive-branch coup.

At the end of this note, I'm reminded of the familiar bumper sticker: *Question authority*. It is good advice, even for the professional military person. It is the standard required by the Constitution, morality, and the Nuremberg trials, after all.

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## THE ITALIAN WAR EFFORT

Madame:

I noted in General Douglas Kinnard's otherwise fine review essay on *Eisenhower: From Abilene to the Elbe* in the Winter 2003 *Naval War College Review* [pp. 163–68] that yet once again the Italian war effort is slighted.

On page 166 it is noted that the end of fighting in North Africa in May 1943 “[resulted] in the surrender of over a quarter of a million German troops.” No, it was the surrender of 250,000 *Axis* troops, of whom over half were Italian. The last general to surrender in North Africa, commanding the Afrika Korps and other units, was Marshal Giovanni Messe (who was well thought of by the Germans). It sprang to my attention because one recent English-language book on the fighting in North Africa after Operation TORCH barely mentions Messe, beyond a footnote.

On these lines, in the same issue is a review essay on Thomas G. Mahnken's *Uncovering Ways of War: U.S. Intelligence and Foreign Military Innovation, 1918–1941* [by Francis G. Hoffman, pp. 155–58]. While reading that excellent book I

noted no mention of the Italian development before World War II of what we now would call SEAL operations. The operations of the Italian 10th MAS would result in several sinkings in Algerian harbors during TORCH. Prewar Allied intelligence completely missed this innovation.

The Italian war effort has often been denigrated, but an interesting theory is being currently advanced in Italian and German historical circles. What would have resulted had the Italian effort, as a decisive weight, been applied more to the Eastern Front instead of North Africa? The Italian economy produced 33,500 trucks, 92,664 automobiles, and 12,800 airplanes in the 1939–44 period; had most of it been sent east, could more Axis units have been motorized and more easily supplied? Had the Axis effort to supply Rommel's forces, along with fuel to transport those supplies, been utilized in the East, could a different result have been obtained?

Only a small handful of British and American historians are working in Italian military history. Until this interest is expanded and broadened, and until the largely excellent Italian military historical resources are more fully exploited, such errors and omissions will continue to plague the historical understanding of the Second World War.

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## BOOK REVIEWS

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### SUCH IS WAR'S EFFECT

Hedges, Chris. *War Is a Force That Gives Us Meaning*. New York: PublicAffairs, 2002. 211pp. \$23

Chris Hedges's timely and moving reflection *War Is a Force That Gives Us Meaning* is about how war destroys the people who experience it. He eloquently argues throughout his short book that no one who is caught up in war ever emerges unscathed or unscarred. Hedges wants the reader to see war for what it is—an evil designed by humans to empower great violence against other humans. Hedges depicts this evil graphically, many times and in many ways, throughout the book. He feels compelled to make his case in extremely stark terms because he knows that for all its wickedness, war is also a most addictive psychological and social drug. Worse, Hedges states, war is sometimes a necessary evil, a poison that civilized and humane peoples must take to defeat horribly deformed nations and peoples who have completely surrendered their humanity to it.

Hedges knows of what he writes. For over fifteen years, he covered wars for various news agencies. He was one of those reporters who, like Ernie Pyle of a generation past, travel to the front to get their stories. Hedges got something else, for which he had not bargained—

an addiction to the “jag” of combat. Michael Herr, a reporter during the Vietnam War, summarized this addiction: “[Under fire] maybe you couldn't love the war and hate it inside the same instant, but sometimes those feelings alternated so rapidly that they spun together in a strobic wheel rolling all the way up until you were literally High On War like it said on all the helmet covers. Coming off a jag like that could really make a mess out of you.”

As a “cure” for his addiction, Hedges spent a year in self-reflection and study at Harvard; the result is this book. He argues that war is so attractive because it provides meaning and purpose to our lives and fills a void in our existence. The Faustian bargain is that war also demands sacrifice—the destruction of everything and everyone who is important to the combatants, including the culture in which they live.

Hedges would have the reader believe that war really expresses the Freudian notion of Thanatos, or death wish—that humans find meaning in their lives through their self-sacrifice, through dying. One immediately thinks of the suicide bombers in

Israel or the hijackers of “9/11.” However, he argues further that if Freud is correct, the balance to Thanatos is Eros, or the love of life. While Thanatos drives humans to self-annihilation, Eros drives them to embrace each other with affection and support. The Freudian view is that both concepts are real and in eternal struggle; there can never be a lasting peace between them.

Hedges closes with a plea: “To survive as a human being is possible only through love. And when Thanatos is ascendant, the instinct must be to reach out to those we love, to see them all in their divinity, pity and pathos of the human.” Love alone, for the author, has the ability to overcome human destructiveness. One feels almost compelled to regurgitate the Beatles line, “All you need is love.” Therein lies the serious weakness of this book. Hedges is convincing in his analysis and reflection on war but superficial to the point of triviality about its necessary counterbalance, love. It is as if he remains addicted to the very thing that he recognizes will destroy him.

Nevertheless, every civilian defense executive, soldier, sailor, Marine, and airman should read *War Is a Force That Gives Us Meaning*. Those of us who have known the intimate jag of war also know its nightmares. Hedges’s work is a cautionary tale implying that nations and peoples should enter war most reluctantly. It warns that war should be a last resort, and that tragic consequences may result even so.

My father made four opposed landings with MacArthur’s army in the Southwest Pacific theater, each one with the first assault wave. He was never wounded. After the war, he worked for

an aerospace company for over forty years and never missed a day to sickness. Every night, after work, he drank himself insensate. That is my most salient memory of him. Now, after *my* war, I know that his drinking was a learned coping behavior that served him well after each landing. It also got him through the rest of his life. Such is war’s effect.

With this book Hedges has rammed the issue of morality and ethics of war in our faces. Will we take heed, or simply strike?

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Henriksen, Thomas H., ed. *Foreign Policy for America in the Twenty-first Century: Alternative Perspectives*. Stanford, Calif.: Hoover Institution Press, 2001. 152pp. \$15

A brief, clean-cutting compendium with six well known scholarly contributors, Henriksen’s volume illuminates the current cardinal directions in the debate over American foreign policy—unilateral versus multilateral interventionism along one axis, and aggressive promotion of democracy (or global markets) versus conservative harboring of national strength on the other. Behind this compass hides the more theoretical discussion of whether the United States needs or could possibly maintain a grand strategy in the absence of an immediate national security threat. Henriksen’s own contribution (introduction and chapter 5) is to lay out the dynamics of the post-Cold War world, emphasizing the rise of China, threats from rogue states, a stumbling Russia, and a series of regional crises that

mandate “measured global activism” in order to protect U.S. national interests.

John Lewis Gaddis stresses the need to develop a coherent U.S. grand strategy in the post–Cold War world—primarily as a tool for managing foreign policy in a disciplined, proactive fashion rather than simply responding to crises on a case-by-case basis. Gaddis argues, “A country without a strategy is like a missile without a guidance system. It’s likely to dissipate resources ineffectually and spread potential damage far. It can pose as many risks to those who build and maintain it as it does to those at whom it’s supposed to be aimed.” Gaddis is known as a key historian of the Cold War. Under current circumstances, he sees grand strategy as an “endangered discipline,” suffering from a shortage of generalists who understand the “ecology” of the international environment rather than narrow regional or functional specialties.

Starting the directional debate, Richard A. Falk argues that American grand strategy should emphasize strengthening global economic governance via international financial institutions, support for European Union–type regionalism as a means of international security, and the transformation of the United Nations toward a global parliament. In Falk’s view, all these developments are in sync with the natural instinct of America, although thus far “the United States’ position has exemplified the democratic paradox of favoring democracy at the domestic level but resisting its application at the global level.” Those familiar with Falk’s writings over the past four decades, advocating world federalism, might find these familiar arguments repetitive; what is unique here is Falk’s lack of

stridency and the absence of the near-utopian rhetoric that marks his earlier, longer works.

Larry Diamond, Hoover Institution scholar and founding coeditor of the *Journal of Democracy*, stakes out the activist end of the other axis. He insists that building a world of liberal democracies, whether by unilateral or multilateral means, should be the primary objective of U.S. grand strategy. Not only does Diamond subscribe to the “democratic peace” theory (that real democracies do not fight each other), but he also argues that democratic institutions function as “elixirs” to all socioeconomic ills. Unlike Falk, Diamond finds the solution for abusive power and brutality through domestic democratization rather than in democratizing international institutions—the latter a process that (by implication) is at best moderately helpful and potentially distracting. At worst, “one nation, one vote” (or votes cast in international fora by rulers of people who are not free) thwarts the process of true (internal) democratization by allowing authoritarian states to subvert the evolving global trend toward greater individual freedom. Diamond identifies the Muslim world, rogue states, and China as having cultural “dilemmas” that resist much direct U.S. support for democratic change, but he maintains that they should remain the particular focus of U.S. efforts.

Sebastian Edwards, UCLA business professor, presents a scholarly defense of the beneficial aspects of economic globalization and concludes that the United States must be the driver of free trade and economic openness throughout the global system. Pointing to the evidence between openness and income

distribution, Edwards sees an international economic policy supportive of globalization as a core aspect of U.S. grand strategy. For Edwards, free capital is as important as free institutions.

Walter McDougall, Pulitzer Prize-winning author and professor at the University of Pennsylvania, simultaneously anchors both the unilateral and noninterventionist ends of the twin axes by arguing for “contra globalization and U.S. hegemony.” His is not a unilateralism of action but a conservation of American strength for vital interests, of which strenuous efforts to establish international institutions is not one. McDougall also argues against the need for an articulate and public American grand strategy, since “strategy is by its nature secretive, deceptive, and counterintuitive . . . and partly reactive” and “democracies are ill-equipped to formulate or execute *any* long-term strategy except in time of war or obvious peril.” In his view, the quest for a detailed grand strategy leads nowhere, because quite simply “the American people don’t want one.” He equally refutes both the “Clintonian vision of globalization” and “the neo-conservative crusade.” America must carefully husband its international political resources (particularly military deployments), since “the world today is in a highly *unnatural* state” that will inevitably lead to balance of power politics and spheres of influence. Continually strong U.S. economic development is the soundest policy; since “the most predictable and direct challenges to U.S. security are the invasion of illegal immigrants and drugs, and the prospect of civil collapse in Colombia, Mexico,

and lands in between,” strengthening pan-American relations should be the main focus. As for the rest of the world, “helping to prevent wars among the big powers is the most moral task the U.S. can perform,” a task that does not include humanitarian crusades, promotion of free trade, or global democracy. “I am for them, by and large,” states McDougall, “but I know America can live without their triumph abroad” and should not squander vital, limited resources in their pursuit. As in his book *Promised Land, Crusader State: The American Encounter with the World since 1776* (Houghton Mifflin, 1997), McDougall compares the potential outcome of America’s moral crusades overseas with that of the ephemeral and counterproductive results of the medieval Crusades. He concludes that Americans should “cease calling for the conversion of all nations in this generation . . . and husband the *assets* they will need when and if strategic genius becomes necessary.”

As the most recent outline of America’s ongoing foreign policy/grand strategy debate, *Foreign Policy for America in the Twenty-first Century* successfully bridges the gap between one-sided media op-eds and cautious scholarly tomes. Appealing to both the interested citizen and policy specialist alike, this book indeed delivers on its promise to bring together major opposing “alternative views” in a succinct, highly readable way.

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Orenstein, Mitchell. *Out of the Red: Building Capitalism and Democracy in Postcommunist Europe*. Ann Arbor: Univ. of Michigan Press, 2001. 184pp. \$60

Historically, most countries first develop a market economy, even under oppressive conditions, before developing a democracy. However, the 1989 revolutions in Central and Eastern Europe produced a counter case—the initiation of simultaneous democratic and economic reforms. Many policy makers and academics outside the region have recommended that stability lies in a coherent and rigid reform plan for all such states. The United States, for example, has suggested and still sometimes emphasizes a “cookie cutter” or “one size fits all” recommendation for economic reform, emphasizing stabilization, liberalization, and privatization. Economic reform, Washington argues, should be placed above the “whims” of politics and not fall victim to victories of the left or right.

Mitchell Orenstein is assistant professor of political science at the Maxwell School of Syracuse University, where he teaches courses on Central and Eastern Europe, as well as on transitions to democracy.

In this work, Orenstein tests these precepts for economic reform in the democratizing countries of Poland and the Czech Republic. He asks the hard question: Were the postcommunist governments definitely less than democratic reform minded, hostile to economic and market-oriented reforms? Orenstein’s persuasive findings demonstrate that the traditional model of the stick-to-it economic plan may not be the only answer. Indeed, policy learning

and fine-tuning result from the successful alternation of the political parties in power in these democracies, even when a postcommunist party returns to take control.

For example, some feared that the resurgence of a postcommunist government in Eastern Europe could lead to a total backlash of democracy in the region or, worse, pander populist solutions to ease the pain of economic restructuring. These fears did not materialize, and the postcommunists elected in Poland did not massively change the economic agenda. There was a slow-down in some areas of reform when the SLD, the Polish postcommunist party, won in 1993, but there was no major attempt to undo economic changes or alter Poland’s Western-oriented path. In the election of 1997, political power once again changed, this time swinging to the right and to Solidarity Electoral Action. This not only further illustrated Poland’s economic success despite alternation of power but also showed how that change resulted in a more efficient and centrist economic policy. Government officials adapted and responded creatively to the wants and needs of the electorate.

Interestingly, it was in Prague that the traditional neoliberal “cookie cutter” reforms were implemented and remained unchanged for eight years, between 1989 and 1997. Orenstein argues that the Czech Republic was not as successful as Poland because of the rigidity of its reforms and its lack of ability to change or adapt. He adds the other dimension of the Czech economic problem—vouchers. In the 1990s, in an attempt at rapid privatization, the Czech Republic gave citizens vouchers to restructure nationalized industries.

The voucher program failed largely because of government corruption, which led to a loss of public support.

This book is insightful but incomplete. Orenstein's arguments are concise and persuasive, but he only examines two cases that neatly support his argument. Hungary would have been an excellent additional test, as would have the fledgling economies of the Balkans, where the process of democratization is affected even more directly by domestic and international constraints.

With possible entry into the European Union just around the corner for most of Central and Eastern Europe, the United States and Europe must look carefully at these practical experiments in democratic and economic liberalization. With democracies emerging in Southeast Asia and perhaps the Middle East, it is important to develop and test models of economic reform to see what works and how best to implement them in democratizing countries.

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Boot, Max. *The Savage Wars of Peace: Small Wars and the Rise of American Power*. New York: Basic Books, 2002. 428pp. \$30

If the story of the military history of the United States could somehow be presented in a single museum, the most grand and widely visited halls would be those dedicated to the American Revolution, the Civil War, and World War II. Less visited, but still of interest, would be much smaller exhibits devoted to World War I, Korea, Vietnam, and DESERT STORM. Conflicts such as

the War of 1812 and the war with Mexico might rate a single dusty showcase in some obscure corner. Tucked out of sight, rarely seen, and all but forgotten would be cabinets, crates, and cartons packed with the jumbled stories of bush wars, expeditions, occupations, pacifications, and reprisals—the often sanguinary and surprising “small wars” of the U.S. military experience.

Reporter and *Wall Street Journal* editor Max Boot provides us with a long-overdue survey of the all too often slighted and neglected realm of these lesser conflicts. His work is of necessity an overview, but it is eminently readable and entertaining. Along the way, Boot reminds us that the conduct of these small conflicts is as much an “American way of war” as that which mobilizes and employs mass citizen-armies in protracted combat. Finally, and perhaps most importantly, Boot suggests that many of the lessons learned from these small wars may be applied to the security dilemmas of today.

This work deserves praise on several levels. To begin with, Boot has rescued the history of these conflicts from a regrettable level of obscurity (as far as the general reading public is concerned). As the merits and limitations of the United States taking on the role of an imperial police force are increasingly debated, it is useful to recall that this is not the first time America has attempted to do so. The author has the courage to suggest that under certain conditions, imperial police forces may provide a much higher quality of life for indigenous people than would otherwise be possible. Boot notes that Haiti's greatest period of prosperity arguably occurred during its long occupation by the U.S. Marine Corps. He also points out that



the Dominican Republic actually benefited when forcibly placed on a fiscal diet by the United States. Although the U.S. Marines were ensuring that nearly half the Dominican Republic's revenues went to repay foreign creditors, their honesty in disbursing the remainder was so notable that the country received more funds than it had under its own rulers. Boot also points out that Veracruz reached a record standard of cleanliness and hygiene, with an attendant improvement in public health, than it had known previously. Boot reminds us that far from resulting in quagmires of despair and failure, many of these conflicts have to be seen as U.S. successes.

There are, however, several criticisms that might potentially be leveled at this work. Some may say that like so many correspondents before him, Boot excessively admires the U.S. Marines, extolling their triumphs at the expense of the other services. However, while there is no denying that Boot has high regard for leathernecks, he does provide ample examples of Navy and Army actions. It is also important to remember that the Marines were the service of choice for the great majority of these conflicts. A significant portion of the Marines' senior leadership in the 1930s felt that the future of the Corps should be bound up in mastering the challenges of these conflicts. This resulted in the Marines' *Small Wars Manual*, published in 1941. It was later shelved; Boot believes that it would have benefited the United States in Vietnam had those in charge read the dusty tome.

Another criticism that might be made by some is that Boot glosses over the darker aspects of small wars, focusing on the successes and personalities. For

example, the first charging of a serving flag officer with a war crime, the use of torture to extract information, and mutinies of such U.S. trained units as the Nicaraguan National Guard were part of the small-war experience. However, Boot discusses these events in clear and unequivocal terms, leaving the reader to come to grips with how these aspects of war played in U.S. successes.

What make this book so timely and one that should be read by almost anyone with an interest in political-military issues, are the tie-ins that Boot identifies as existing between the wars of the past and the realities of the present. Issues such as exit strategies, expected casualties, the difficulties of working with local allies, and the complexities of state building are not things the United States is facing for the first time. Indeed, as Boot demonstrates, the nation has been dealing with these dilemmas since the beginning of its existence. Well written, timely, and provocative, *Savage Wars of Peace* is well worth attention.

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Vidal, Gore. *Perpetual War for Perpetual Peace: How We Got to Be So Hated*. New York: Thunder's Mouth Press, 2002. 160pp. \$10

It would be difficult to find a book on world affairs more contrary to the opinions of most readers of the *Naval War College Review* or other members of the American national security community than Gore Vidal's *Perpetual War for Perpetual Peace*.

As a military officer myself, I disagree with many of Vidal's assumptions and

propositions, but the book is worthwhile because it challenges one to think about inconsistencies and issues in American foreign policy as well as domestic security. The book is extremely well written, as one would expect from a writer of Vidal's caliber. It is highly engaging, and most military professionals interested in American national security will probably find it easy to read (although fewer may find it easy to agree with).

Gore Vidal is a noted novelist, perhaps one of the most prominent living American authors. In 1943 he enlisted in the Navy and served in World War II, so his background lends relevant experience in military affairs. He wrote his commentary shortly after the 11 September attack, but after both *Vanity Fair* and *The Nation* declined it, a version of this book was printed in Italy, where it became a best-seller. After subsequent publication in Europe, Vidal was finally able to get the book published in its present form.

*Perpetual War for Perpetual Peace* contains seven chapters and an introduction, but much of the material predates "9/11," which is one of the book's chief weaknesses. Three chapters were reprinted from his *The Last Empire* (Doubleday, 2001), and these were recycled from earlier articles. Another chapter, "The Meaning of Timothy McVeigh," appeared in the September 2001 issue of *Vanity Fair*. There are sparse updates throughout the older chapters, including asterisked footnotes and comments, such as one briefly comparing the Oklahoma City bombing to "Dark Tuesday" ("9/11"). However, the meat of the new work appears in the first chapter, "September 11, 2001 (A Tuesday)."

Vidal's sharp mind and readable writing style make his arguments on the World Trade Center attacks and the aftermath compelling. For instance, the declaration of an ambiguous "war" on terror has been the subject of much discussion in the pages of foreign affairs journals and newspaper editorials. Vidal notes that insurance companies benefit from a state of war due to exception clauses in insurance agreements, although previous U.S. case law has established that "acts of war" can originate only from "a sovereign nation, not a bunch of radicals."

Some of his other comments lean more toward "Swiftian literary exaggeration," of which he accuses H. L. Mencken in a letter to Timothy McVeigh. His portrayal of Secretary Donald Rumsfeld and Vice President Dick Cheney as eager for a police state seems excessive. Also, he compares the terrorist attacks in the United States to such state-sponsored atrocities as the burning of the Reichstag (secretly perpetrated by the Nazi government in order to consolidate Hitler's police power) and rapes by bogus Vietcong squads to discredit the communist insurgency. This paranoid proclivity toward conspiracy theory is revealed in his assertion that Opus Dei is a conservative Catholic conspiracy in the United States. He makes a point about Thomas Jefferson's and John Adams's opposition to Jesuit activity in America, which is probably more an indicator of American anti-Catholic bigotry several hundred years ago than any prescient warning of the dangers of religious incursion into state affairs.

There are, however, several arguments that are more convincing. Vidal contends that terror attacks caused more

damage to civil liberties than to the nation's physical well-being. "Once alienated, an 'unalienable right' is apt to be forever lost." He documents this assertion with a list of police killings of innocent people in their homes and of indefensible searches and seizures. While a reasonable reader may dismiss these discomfiting examples as well researched exceptions to normal law enforcement activity in the United States, Vidal also brings up the changing nature of the law. He refers to *U.S. v. Sandini* (1987), which established that police were able to seize property permanently from an individual if the property has been used for criminal purposes, even if the individual has had no involvement with any crime. This ruling has highly negative implications, considering that 90 percent of American paper currency has traces of narcotics on it from use in the drug trade. Vidal also points out a common problem that is not commonly pondered—the incidence of homosexual rape in the U.S. prison system, a violation of the cruel-and-unusual-punishment clause of the Bill of Rights. For anyone who doubts that such punishment is state sanctioned, Vidal quotes a state attorney general who refers to this practice in a public statement made in the course of his official duties. He is reminiscent of the military author Colonel Charles Dunlap, U.S. Army, in his references to blatant disrespect to President Bill Clinton on a naval vessel by seamen, who called Clinton "the Praetorian Guard of the Pentagon," and our "ruling junta."

There is one other weakness: the book fails to address properly the meat of the issue that its title promises—"how we got to be so hated." The Federation of

American Scientists has published a twenty-page listing of American military operations dating from 1948 to 1999, documenting how the United States (like the nations of Orwell's 1984) has an "enemy of the month club" and thus engages in a "perpetual war" hoping for "perpetual peace." This theme is underdeveloped, however, and Vidal's discussion of the United States emphasizes domestic repression, while his reprinted chapters focus too exclusively on an apology (in the Platonic sense of an explanation) of Timothy McVeigh.

Altogether, *Perpetual War for Perpetual Peace* presents a provocative argument that will be of intellectual appeal to professional military officers. It is admittedly an alternative perspective, but it may give members of the American national security community insight into how our European allies think, as well as our Third World adversaries, who often share Vidal's perspective. Vidal's arguments are intriguing, but the brevity of the new parts of this work ultimately leaves his thoughts incomplete.

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Jalali, Ali Ahmad, and Lester W. Grau, eds. *The Other Side of the Mountain: Mujahideen Tactics in the Soviet-Afghan War*. Quantico, Va.: U.S. Marine Corps Studies and Analysis Division. 416pp. (no price given)

What could be both more poignant and ludicrous than Commander Abdul Baqi Balots's account of his survival of a firefight in which his closest friend was killed? "I saw a lot of Soviets coming at

me and they were all firing (they put ten bullet holes through my baggy trousers). . . . Habib Noor told me that, unless we crossed the stream to the north, we would not be able to engage the Soviets. . . . I ran across and jumped but landed directly into the stream. ‘Oh, Allah,’ I cried, ‘you have killed me without dignity.’ Then I made a big jump, I don’t know how since even a tank can’t clear it, but I did and got out of the stream.”

This episode is recounted in Ali Jalali and Lester Grau’s book *The Other Side of the Mountain*. The two editors are well known for a sequence of publications on unconventional warfare going back to the early 1990s. For those who follow this field, it is no surprise that they are employed at the U.S. Army’s distinguished Foreign Military Studies Office at Fort Leavenworth, Kansas. Their highly readable compilation is a significant contribution to the literature on guerrilla warfare, and it has immense implications for the contemporary (at this writing) U.S. intervention in Afghanistan.

The work consists of ninety-two “vignettes” of tactical action, with a few longer accounts of more protracted operations, all based on interviews with mujahideen participants. The book was inspired by a Russian text used at the Frunze Combined Arms Academy, detailing Soviet tactical action in Afghanistan. Jalali and Grau earlier produced an English translation of that book under the title *The Bear Went Over the Mountain: Soviet Combat Tactics in Afghanistan* (National Defense Univ. Press, 1996). *The Other Side of the Mountain* points out when one of its short stories covers the same actions or

operations as in *Bear*, but the works are not parallel texts.

The present work consists of fourteen chapters and a conclusion, composed of two to sixteen stories apiece. Each chapter illustrates a different type of tactical combat. There is a short discussion of the tactic before each chapter and a commentary at the end. This format has been used in military writing for many years (such as in the study *Infantry in Battle*, edited by George Marshall, Military History and Publications section of The Infantry School, 1934).

However, in recent decades the implicit analysis this approach provides has been greatly strengthened by the more explicit case-study method. If these stories had been written and presented as formal case studies, some existing weaknesses could have been avoided—the chief one being burying the chapter “Blocking Enemy Lines of Communication” halfway through the book, despite the editors’ and contributors’ amply demonstrated contention that logistics dominated the Soviet war in Afghanistan and was its chief strategic (not tactical) factor.

The thematic organization of the chapters is a powerful approach, but it means sacrificing any sense of chronological development. As a result, there is little sense of the evolution of mujahideen tactics during the war or of their interaction over time with Soviet tactics, despite occasional references to such evolution in the chapter commentaries. In fact, the work places unreasonable expectations on the background knowledge of the reader. A summary of the war’s origins, conduct, and outcome is badly needed. A table listing each major mujahideen faction, with its leader, ideology, and sponsors,

would also be helpful, as these factions are referred to throughout the narrative. The book might also have addressed popular myths or conceptions about the war—for example, the U.S. view that distribution of Stinger antiaircraft missiles to the mujahideen broke the back of Soviet air support and hence was the decisive point of the struggle. The editors at a number of points indicate their disagreement with this view but never provide a formal rebuttal. On the other hand, the book capriciously provides detailed background information on such relatively trivial points as the official U.S. Army load weights for mules, Central Asian horses, and camels.

The book has a strong geographic bias—most of the actions it describes are in the vicinity of Kabul or on the route connecting Kabul and Jalalabad. Most of the remaining actions are in the Kandahar area. There is nothing from the Herat region, or the area around Mazār-e Sharīf, or the Panjshir Valley. This bias may be explained by a point the editors make in their introduction, that a number of interviews could not be completed because of the 1996 Taliban advance on Kabul and the north. Still, they need to explain how they have compensated for this imbalance in their material, especially in view of their own contention that the conduct of the war varied by region and by the ethnicities involved.

There may be an issue in this book with language as well. Good interpreters are well aware of the temptation to tidy up the haphazard use of specialized terminology by speakers of a foreign language, by rendering it in precise, professional English usage. The editors remark in the introduction that

although their contributors always referred to “Russians,” they have changed this throughout to “Soviets.” Did the same process occur in transcribing the interviewees’ descriptions of guerrilla operations? In this book even the most irregular of mujahideen commanders seems to have a perfect grasp of U.S. military terms and phrasing, implying an equal grasp of the concepts behind the words.

Unfortunately, the book’s proofing and editing is distractingly bad, which is a serious handicap in a work containing so many foreign words and names. An end sheet includes production credits for the book—it seems only appropriate that one is listed for “Book Editing and Desing.” A particularly unfortunate result of this hasty editing is found in the commentary following a chapter on urban combat. On first reading, this evaluation of a mujahideen bombing of a city market appears actually to be a defense of terrorist attacks on civilian noncombatants. Closer attention, however, shows that the editors were attempting to contrast this particular incident with the Soviet aerial bombardment campaign aimed at driving the population from the Afghan countryside, but the text certainly reads as though it is equating *any* air strike with terrorism.

These flaws detract from but do not negate the high value of this book. In addition to its major strength of first-hand accounts of the most significant guerrilla war of our time, the book has many other useful features. Its use of maps is particularly adept, and consistent references to Defense Mapping Agency map sheets give a sense of detail and nuance to the work. While it is exceptionally riddled with typographical errors, the glossary covers nearly all the

specialized and foreign terms used in the book, at exactly the right level of detail.

In sum, *The Other Side of the Mountain* is a unique and valuable contribution to the study of unconventional warfare. In view of the ongoing U.S. operations in Afghanistan, the editors would be performing a civic service were they to produce a revised and reedited version for general publication.

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Ellsberg, Daniel. *Secrets: A Memoir of Vietnam and the Pentagon Papers*. New York: Viking Penguin, 2002. 498pp. \$29.95

For Americans who were adults during the Vietnam War, the name Daniel Ellsberg is portentous; it either suggests a whiff of treason or connotes heroic patriotism. Ellsberg is a Marine Corps veteran, Harvard Ph.D., former senior official in the Office of the Secretary of Defense, a highly regarded analyst for the RAND Corporation, and a civilian observer of platoon-level combat in Vietnam who defiantly chose to “walk point” with the troops he was observing. In March 1971, Ellsberg released to the *New York Times* a seven-thousand-page, highly classified Department of Defense history of American involvement in Vietnam. Covering the war from the Truman administration through the Tet offensive of early 1968, this study became known as “The Pentagon Papers” when the *New York Times* began publishing it on 13 June.

Ellsberg’s action earned him federal felony indictments and a protracted criminal trial. On 11 May 1973 the judge

abruptly dismissed the government’s case, because in the last few weeks evidence had materialized showing that agents of the Richard M. Nixon administration had denied Ellsberg his right to a fair trial by burglarizing his psychiatrist’s office in search of material with which to blackmail him into not releasing more documents. This revelation became part of the unfolding drama of the Watergate scandal, the surreptitious forced nighttime entry into the Democratic Party headquarters by the same agents of the administration. President Nixon attempted to buy the silence of one of the burglars, E. Howard Hunt, with a seventy-five-thousand-dollar bribe. Facing impeachment for attempting to cover up the break-in, Nixon wailed about Ellsberg: “The sonofabitching thief is made a national hero. . . . And the *New York Times* gets a Pulitzer for stealing documents.”

*Secrets* is a book that must be read by anyone seeking to understand how the United States formulates its strategy and policy. Ellsberg demolishes the “quagmire” thesis favored by such influential liberal interpreters as Arthur M. Schlesinger, Jr. By that interpretation, beginning with Harry S. Truman up to the administration of Lyndon B. Johnson, each president made a deeper commitment of American military power and clandestine activity, under the conviction that his actions would achieve a South Vietnamese victory over the invaders from the communist North.

From Ellsberg’s perspective, there was no quagmire, only endless presidential deception of Congress and the public, who were led to believe decade after decade that surely the next step would result in the successful establishment of a permanently independent South



Vietnam. Ellsberg served as the action officer for Vietnam, reporting personally to John McNaughton, Secretary of Defense Robert S. McNamara's principal assistant for Vietnam. Ellsberg became convinced that every president knew that his commitments would prove insufficient to accomplish the goal of preserving South Vietnam's independence. However, none of them could withdraw American support—because a communist victory in South Vietnam would create an unbearable political liability in the Cold War climate of “wars of national liberation” backed by the Soviets and China.

Ellsberg went to work as McNaughton's aide for Vietnam on 4 August 1964. On that day his office was receiving live reports of North Vietnamese patrol-boat attacks on the U.S. destroyer *Maddox*, the presence of which off North Vietnam was one of several provocations staged by the Johnson administration to elicit a military reaction from Hanoi. The administration publicly claimed that two distinct sets of attacks were made, first on the *Maddox* and a short time later on the *Maddox* and a sister ship, USS *Turner Joy*. Drawing on his direct experience in the Office of the Secretary of Defense, Ellsberg demonstrates that *Maddox*'s skipper raised doubts about the second set of attacks within a few hours of announcing them. The Johnson administration nonetheless went to Congress describing both attacks as bona fide, because together they appeared to justify a long-planned escalation of the air war. Once armed by Congress with the Gulf of Tonkin Resolution, Johnson made a few direct retaliatory air strikes and then posed as the presidential peace candidate. He was running against

Republican Barry Goldwater, who was advocating precisely the kind of sustained air campaign that Johnson had already planned and would begin once safely reelected president.

One can applaud or condemn Daniel Ellsberg for what he did in 1971. What one cannot do is ignore the power his memoir has to inform Americans about how the executive branch conducted its foreign policy and military strategy from the 1940s until 1974. As the United States apparently heads (at this writing) toward another major war, the skeptic is entitled to wonder if things at the top have really changed.

KEN HAGAN

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Rohwer, Jürgen, and Mikhail S. Monakov. *Stalin's Ocean-Going Fleet: Soviet Naval Strategy and Shipbuilding Programmes, 1935–1953*. Portland, Ore.: Frank Cass, 2001. 334pp. \$57.50

The collapse of the Soviet Union and the opening of major Russian archives have provided an opportunity to add greatly to our understanding of the character of the Soviet navy. Eminent researchers Jürgen Rohwer and Mikhail S. Monakov have contributed much to this understanding with their study of Soviet naval shipbuilding and strategy when Josef Stalin controlled the development of the Soviet Navy, from 1935 until his death in 1953. They have uncovered extensive details of the massive shipbuilding program, most of which never came to fruition. Strategy, however, remains as murky as ever. This study complements but does not replace Monakov's series of articles on



Soviet naval doctrine and Stalin's fleet in *Morskoi sbornik*, 1992–98, or Robert W. Herrick's *Soviet Naval Theory and Policy: Gorshkov's Inheritance* (1989).

At the end of 1935 Stalin personally yanked the Soviet navy from littoral defense through air, submarine, and light surface forces into a grandiose shipbuilding program centered on large battleships and battle cruisers, while retaining "Young School" craving for submarines. Stalin took naval strategy into his own hands but never divulged any strategic precepts or plans to his naval leaders, who in fear of Stalin's wrath dutifully adapted themselves to the imposed scheme, several falling to the purges anyway. The result was a massive shipbuilding program and a naval officer corps stranded in a strategic wilderness, with silent misgivings about the apparent dissonance between the projected force structure and operational commitments arising from the Soviet Union's particular geostrategic position.

By 1939 an immense program had evolved to build twenty-four powerful battleships by 1947, with fifteen for the Pacific Fleet and the rest divided among the Baltic, Black Sea, and Northern Fleets. Concurrent plans called for a submarine force intended to reach 438 units, of which 219 were earmarked for the Pacific. These fleet goals, along with a modicum of light surface forces, were impossible for Soviet shipbuilding capacity, even by halting merchant ship construction. With the onset of the Great Patriotic War, all long-term projects were suspended; only submarine and light surface projects continued, as circumstances allowed. The defeat of the Axis saw the prewar schemes reduced to three battleships and three

battle cruisers, all of which were canceled when Stalin died. The *Sverdlov*-class cruisers and a new submarine force of 284 boats became the shrunken legacy of Stalin's naval dreams.

The navy of Admiral Nikolai Kuznetsov, under army operational control but without strategic direction from the General Staff or the top, continued to orient itself before, during, and after World War II toward traditional defensive roles—defeating attacking enemy fleets and amphibious expeditions in the near seas—with only a limited submarine offensive on adjacent enemy sea lines of communications.

Stalin's motive for building a battleship fleet, according to the authors, was the vision of the Soviet Union gaining supremacy in the four near seas and then becoming an oceanic power, with the battleship or battle cruiser "a symbol of the highest grade of power, a most powerful and mobile instrument of power politics, that the world had ever known," the direct predecessor of the atomic bomb in attaining super-power status.

Stalin, however, left no direct evidence of his reasons, whereas several indicators point toward a dominant mental construct of positional strategic defense still guiding Stalin and his admirals. He and his naval leaders agreed on a defense strategy but diverged on preferred force structure. Stalin rejected the aircraft carrier, despite all the evidence from the Second World War of the importance of airpower at sea for a blue-water navy. Kuznetsov often pleaded in vain with Stalin for stronger shipboard antiaircraft defenses on ships, for aircraft carriers to cover surface forces from enemy air

attack out to three hundred miles from naval bases, and to limit Soviet land-based air support. In 1946, Kuznetsov's close associate Admiral Vladimir Alafuzov developed a positional scheme of supremacy under land-based air cover up to one hundred miles from naval bases, and conditional sea control by large surface vessels with limited air support in a "far zone" out to three hundred miles. This fell short of command of the expanses of the Barents, Baltic, and Black Seas or of most of the Sea of Japan. Only submarines with long endurance could operate in the open ocean, but Stalin preferred medium submarines, conceived for operations in near seas against an amphibious threat. The projected battleships would have had an operational radius only half that of their contemporaries in oceanic navies. Only current Italian battleships, also designed for near seas, had such limited autonomy. To operate across the open ocean was a ludicrous concept to Stalin in 1945, arguing for a defensive posture for at least ten to fifteen years to come. Stalin's projected "large sea and oceanic navy," to use the Soviet term, was likely created for a hoped-for more robust traditional strategic defensive in contiguous seas. The evidence in this book, if not its title, lends support to Herrick's judgment of a Stalinist strategy of limited command of the near seas. To suggest that it was "the first step on the road to global naval power," as does series editor Holger Herwig in the preface, would require Stalin and his navy to demonstrate a conceptual leap for which neither had shown a proclivity. Mind-sets resist change. Even in the navy of Admiral Sergei Gorshkov, who

inherited Stalin's schemes and built up Kuznetsov's fleet, extensive deployments did not replace deeply held positional and defensive assumptions. Had Stalin's "oceanic" fleet actually been built, whether a shift of orientation by him or his admirals toward "global naval power" would have occurred remains undemonstrated and problematic.

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Buker, George E. *The Penobscot Expedition: Commodore Saltonstall and the Massachusetts Conspiracy of 1779*. Annapolis, Md.: Naval Institute Press, 2002. 195pp. \$32.95

In the various history books on the American Revolution, the Penobscot expedition is rarely mentioned in any detail, being overshadowed by the more widely known and successful battles and campaigns. Perhaps this is due to the dismal outcome of this early joint amphibious operation and to the desire by some, especially Massachusetts politicians of the time, to forget what had happened.

This hastily conceived expedition was launched from Boston in July 1779. The expedition was given the task of expelling the mounting British military presence on coastal Maine, centered around Penobscot Bay, but specifically at Castine. The expedition set off with full expectation of success on the part of the Massachusetts political leadership. But from the beginning, the force assembled was hampered by inadequate leadership, divided command authority, poor training and support, and a

significant lack of understanding of the tactical situation. In this book, George Buker, a retired Navy commander, professor of history, and an accomplished author, provides a significant account of this much overlooked effort by the combined forces of the Massachusetts and Maine militia, Continental Navy and Marines, and various privateer groups. Buker also provides an interesting glimpse of the internal politics and personalities of the colonies, especially in Massachusetts during the American Revolution. He further provides a complementary argument that the Massachusetts political authorities, when confronted with the dismal failure of the expedition, set in motion an inquiry that may have been a conspiracy of political self-interest.

The book appears well researched, with significant endnotes and bibliography. Reading almost like a novel, it tells the story of the Penobscot expedition in great detail and addresses the issues that led up to its failure and the resulting inquiry. In appropriately titled chapters Buker provides a historical overview leading up to the expedition, including the British policy, orders for military operations along coastal Maine, and, of course, the colonial response to the threat to the extended territory of Massachusetts, now the state of Maine.

As expected, the majority of the book deals with the actual operations, from outfitting and the order of battle to the assaults and resulting siege at Castine, to the hasty retreat and then rout of colonial forces when superior Royal Navy forces arrived, and finally to the sequel, in which the expedition's personnel walked back to Massachusetts from Maine after burning their ships. After the failure of the expedition and the

loss of almost forty ships, recriminations were made against various leaders, including allegations against naval force commander Captain Dudley Saltonstall of responsibility for the overall result; and against Paul Revere, an icon of the Revolutionary War who served in the expedition as a lieutenant colonel in charge of the artillery, of unsoldierly conduct. In the end, it was Captain Saltonstall who bore the brunt of the smear campaign by Massachusetts politicians to shift the blame.

In the final chapters, and through the lens of history, Buker argues that indeed a conspiracy by the Massachusetts politicians, through their committee of inquiry, manipulated the results of their investigation and attempted to influence the outcome of the court-martial of Saltonstall by Continental Navy authorities. Their efforts ensured the desired results of exonerating their native son, militia general Solomon Lovell, and provided the justification needed to assess the Continental government for a portion of the monetary cost. Buker, however, provides technical and tactical reasons that may have led to the failure of the expedition. Further, he indicates that only Captain Saltonstall fully appreciated the tactical and operational circumstances, as well as the limited capability of his resources and ships in the confined waters around Penobscot Bay. These considerations were evidently excluded or ignored by the politicians in their single-minded desire to find a scapegoat for the failure.

Overall, this is a fine historical accounting of this chapter in American history. My one large criticism is that the one simple map provided is inadequate for a full understanding of the operations. This reviewer has the benefit of having

been stationed in Castine, Maine, and is geographically aware of the area; I have walked the earthen ramparts of Fort George and the various other entrenchments around Castine. It would have been most helpful to the general reader had additional detailed military maps been included with each phase of the expedition. Well placed photographs of the area would have further added to the historical understanding of the events, as would photos of the various earthworks, trenches, the defensive canal, and Fort George, which all still exist as historical landmarks.

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*Naval War College*



West, Bing. *The Pepperdogs*. New York: Simon & Schuster, 2002. 365pp. \$25

*The Pepperdogs* ranks with *The Hunt for Red October*. It is a work of fiction constructed around reality, brimming with action and genuine insight into the emerging warfighting capabilities of the new ground soldier. West develops his story around a Marine reconnaissance team. That team, the "Pepperdogs," is made up of six reservists of varying civilian backgrounds; all have extraordinary courage, physical and mental strength, expert tactical skills, and total team commitment.

The Pepperdogs set out on their own to rescue a team member captured by rogue Serbian guerrillas who specialize in casual atrocities. West's story takes place in Kosovo, mostly in mountainous terrain and in the harshest of winter conditions. In pursuit of the kidnappers the team undergoes nearly constant

attack, endures brutal weather, and creates an increasingly difficult political situation for senior national security leaders who believe the Pepperdogs are risking diplomatic solutions. There is at one point the suggestion that even the murder of one Marine would not be worth upsetting diplomatic peace initiatives. The Pepperdogs make political matters worse by leaving a path of destruction while ignoring direct orders to end their chase.

Setbacks are many, but perseverance and tactical teamwork always (well, almost always) gets them out of tight spots. One remembers those great moments when the cavalry arrived and everyone cheered. But this team is different from the cavalry; the Pepperdogs take performance-enhancing drugs and rarely need to rest. One team member creates an Internet website that provides the public with real-time information on their progress and problems. The public cheers them on, reducing the policy-making flexibility of political leaders. West skillfully introduces the Internet as a source of potential direct information from individuals in the battle to the public. That information would have obvious constraining effects on future national security decision-making latitude and would yield different perspectives on progress and problems.

The suspense and many sudden turns of fortune keep the reader glued to the story. One cannot help but choose sides between the Marine team and political leaders who wish to halt the pursuit of the kidnapped Marine. Even if the team succeeds and its members become public heroes, they may be court-martialed for disobeying orders.

Bing West is well qualified to write an insider's story of modern small-unit tactics, having had experience of Oval Office-level decision making and the conflicts faced by senior military leaders between political direction and unnecessarily risky situations. West was a Marine reconnaissance leader in Vietnam and has studied small-unit action since the 1960s. He was a Naval War College professor and a former assistant

secretary of defense. West has maintained a close relationship with the Marine Corps through his design of combat decision-making simulations.

*The Pepperdogs* is a great read—as was, by the way, West's earlier Vietnam-centered book *The Village* (Pocket Books, 2003, paperback).

WILLIAM E. TURCOTTE  
*Professor Emeritus*  
*Naval War College*

## BOOKS RECEIVED

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*U.S. National Security: Policymakers, Processes, and Politics*, by Sam C. Sarkesian, John Allen Williams, and Stephen J. Cimbala. Boulder, Colo.: Lynne Rienner, 2002. 330pp. (no price given)

*World History of Warfare*, by Christon I. Archer et al. Lincoln: Univ. of Nebraska, 2002. 626pp. \$29.95

*United States Military Assistance: An Empirical Perspective*, by William H. Mott IV. Westport, Conn.: Greenwood, 2002. 384pp. \$69.95

*Shadow of the Dragon: Vietnam's Continuing Struggle with China and the Implications for U.S. Foreign Policy*, by Henry J. Kenny. McLean, Va.: Brassey's, 2002. 176pp. \$24.95

*Quest for Decisive Victory: From Stalemate to Blitzkrieg in Europe, 1899–1940*, by Robert M. Citino. Lawrence: Univ. Press of Kansas, 2002. 372pp. (no price given)

*Red Sky in the Morning: The Battle of the Barents Sea 1942*, by Michael Pearson. Shrewsbury, U.K.: AirLife, 2002. 154pp. \$24.95

*International Order and Individual Liberty: Effects of War and Peace on the Development of Governments*, by Mark E. Pietrzyk. Lanham, Md.: Univ. Press of America, 2002. 245pp. (no price given)

*Wedge from Pearl Harbor to 9/11: How the Secret War between the FBI and CIA Has Endangered National Security*, by Mark Riebling. New York: Simon & Schuster, repr. 2002. 580pp. \$16

*The Royal Navy and the Mediterranean. Vol. 2, November 1940–December 1941*, with an introduction by David Brown. Portland, Ore.: Frank Cass, 2002. 318pp. \$59.50



## FROM THE EDITORS

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### FORTHCOMING NEWPORT PAPERS

The sixteenth in our eleven-year series of Newport Papers (and the first of a new generation of papers, in a handsome new design) is now in press—*The Third Battle: Innovation in the U.S. Navy's Silent Cold War Struggle with Soviet Submarines*, by Owen R. Cote, Jr. In each of two world wars, control of the sea was threatened by the then new and revolutionary submarine; the Cold War, argues Dr. Cote, of the Massachusetts Institute of Technology, was effectively the third battle against the submarine. When in the mid-1980s the first truly quiet Soviet nuclear submarines were deployed, the U.S. Navy was forced to contend with critical new antisubmarine warfare challenges. Our sixteenth Newport Paper is an examination of those events.

Watch also for Newport Papers 17, 18, and 19:

- *The Limits of Transformation: Officer Attitudes toward the Revolution in Military Affairs*, by Thomas G. Mahnken and James R. FitzSimonds.
- *Military Transformation and the Defense Industry after Next: The Defense Industrial Implications of Network-centric Warfare*, by Peter J. Dombrowski, Eugene Gholz, and Andrew L. Ross.
- *Second Global War Game Series*, by Bob Gile.

To obtain copies of Newport Papers or subscribe to the (complimentary) series, contact the editorial offices, at (401) 841-2236, [press@nwc.navy.mil](mailto:press@nwc.navy.mil), or Naval War College (Code 321), 686 Cushing Road, Newport, R.I. 02841-1207.

### PROFESSIONAL MILITARY EDUCATION

Watch in future issues, beginning with Autumn 2003, for a series of articles on a subject of particular interest to anyone associated with the Naval War College or the Navy's other service colleges—professional military education. We plan to offer the views of a wide variety of highly qualified observers. We look forward to an energetic and fruitful exchange between the authors, as well as, through our "In My View," "Research & Debate," and "Commentary" departments, between them and our readers.



## OF SPECIAL INTEREST

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### THE EDWARD S. MILLER RESEARCH FELLOWSHIP IN NAVAL HISTORY

The Naval War College Foundation intends to award one grant of one thousand dollars to the researcher who has the greatest need and can make the optimum use of research materials for naval history located in the Naval War College's Archives, Naval Historical Collection, and Henry E. Eccles Library. A guide to the College's manuscript, archival, and oral history collections may be found on the Naval War College's website, [www.nwc.navy.mil](http://www.nwc.navy.mil) (click on "Library," "Library Publications," then "Naval Historical Collection"). Further information and copies of the registers for specific collections are available on request from the Head, Naval Historical Collection, e-mail [cherpake@nwc.navy.mil](mailto:cherpake@nwc.navy.mil).

The recipient will be a Research Fellow in the Naval War College's Maritime History Department, which will provide administrative support. Submit a detailed research proposal, c.v., one letter of recommendation, and relevant background information to Miller Naval History Fellowship Committee, Naval War College Foundation, 686 Cushing Road, Newport, R.I. 02841-1207, by 1 August 2003. Employees of the U.S. Naval War College or any agency of the U.S. Department of Defense are not eligible for consideration; EEO/AA regulations apply.